

FIG.-3

* MTV, NICKLEODEON, MOVIE CHANNEL

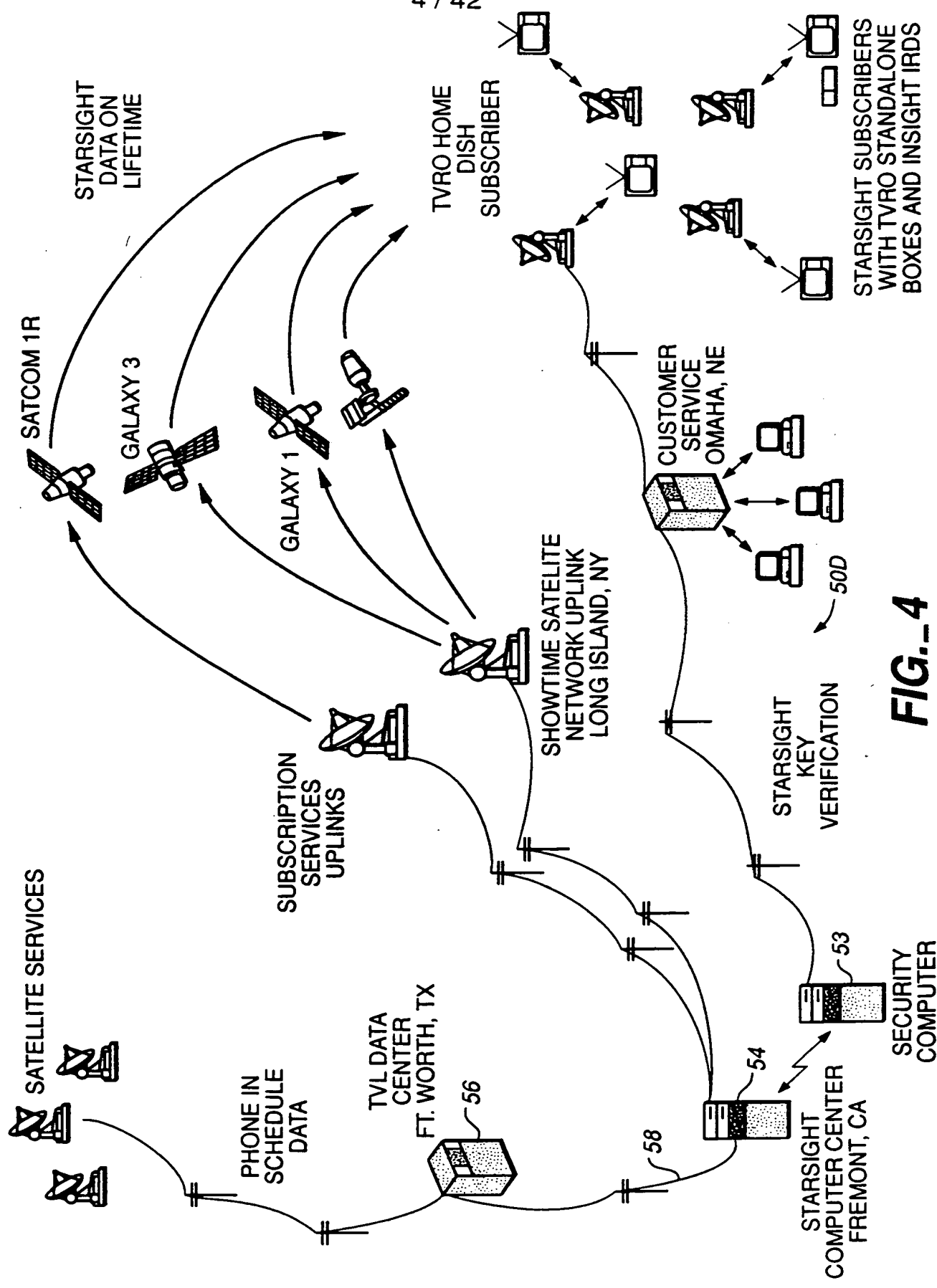


FIG. 4

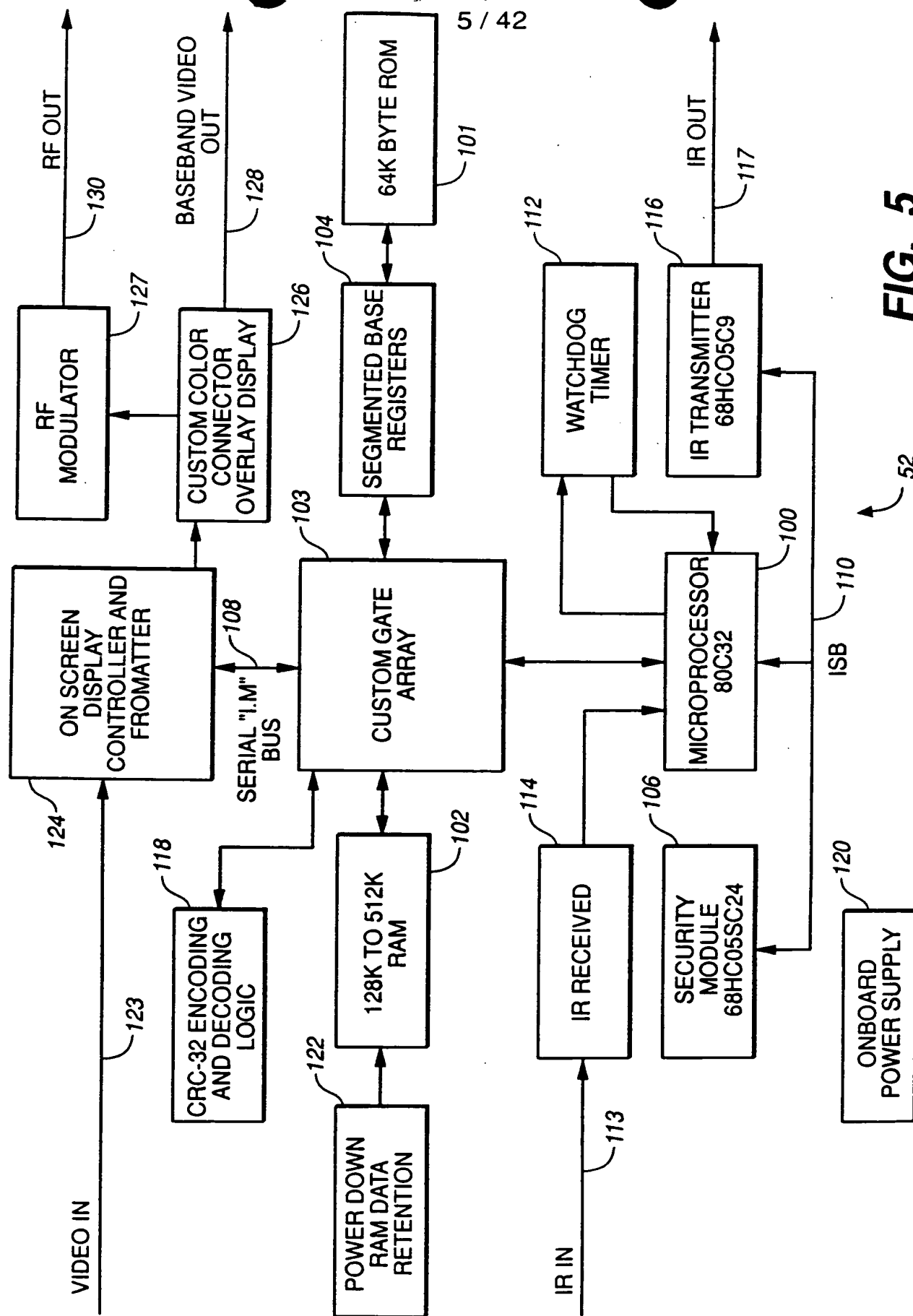
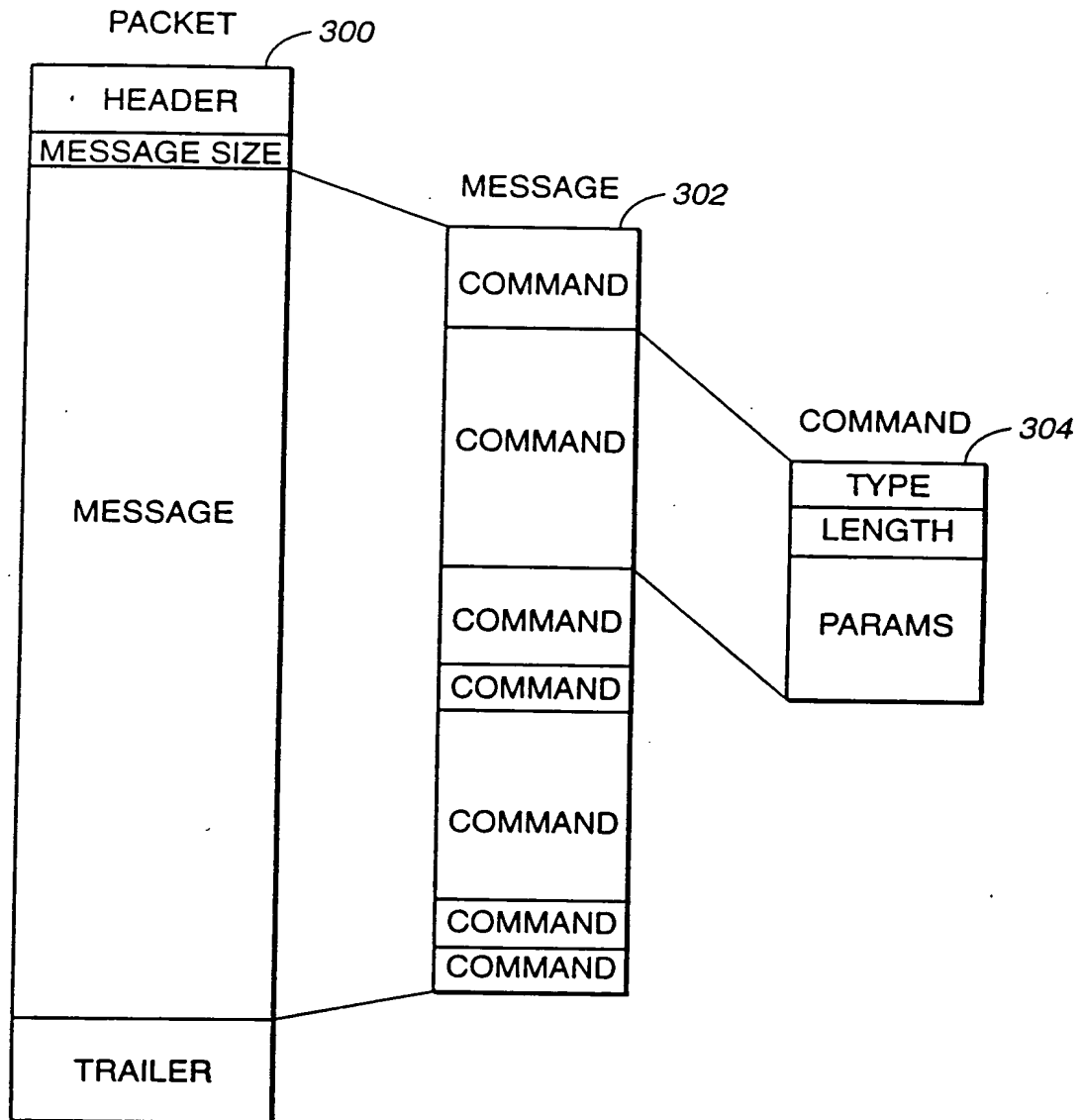
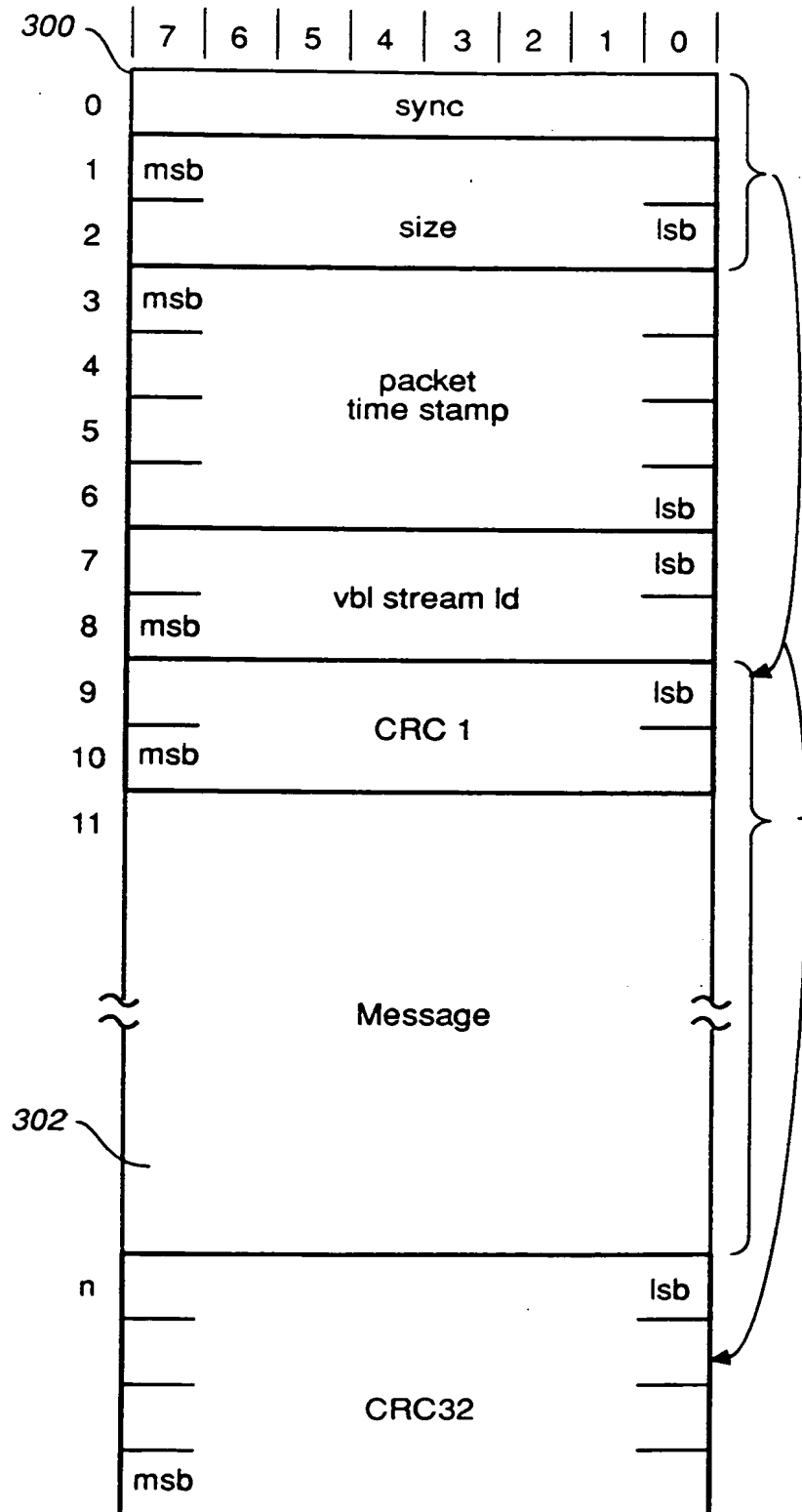
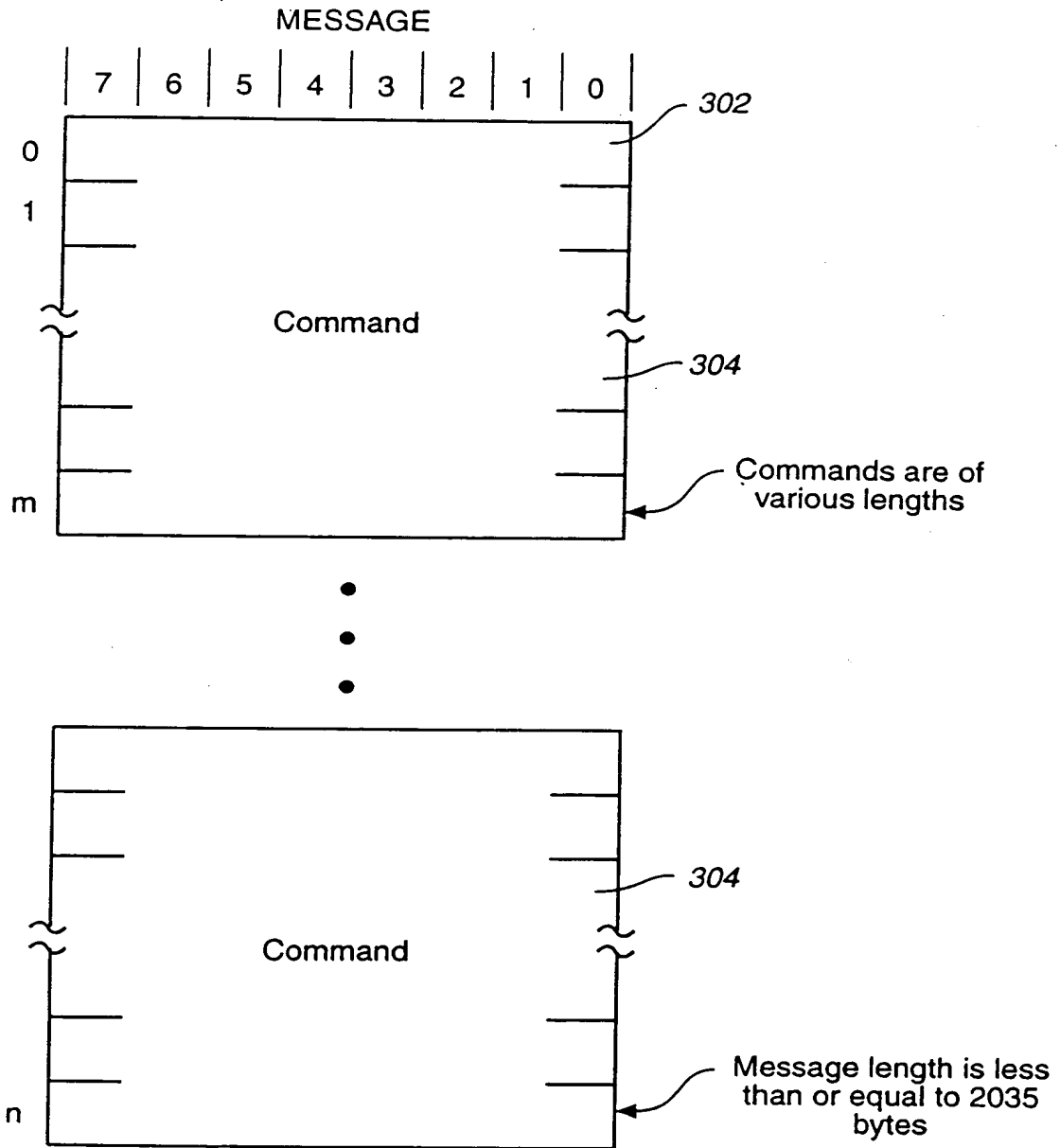


FIG. 5

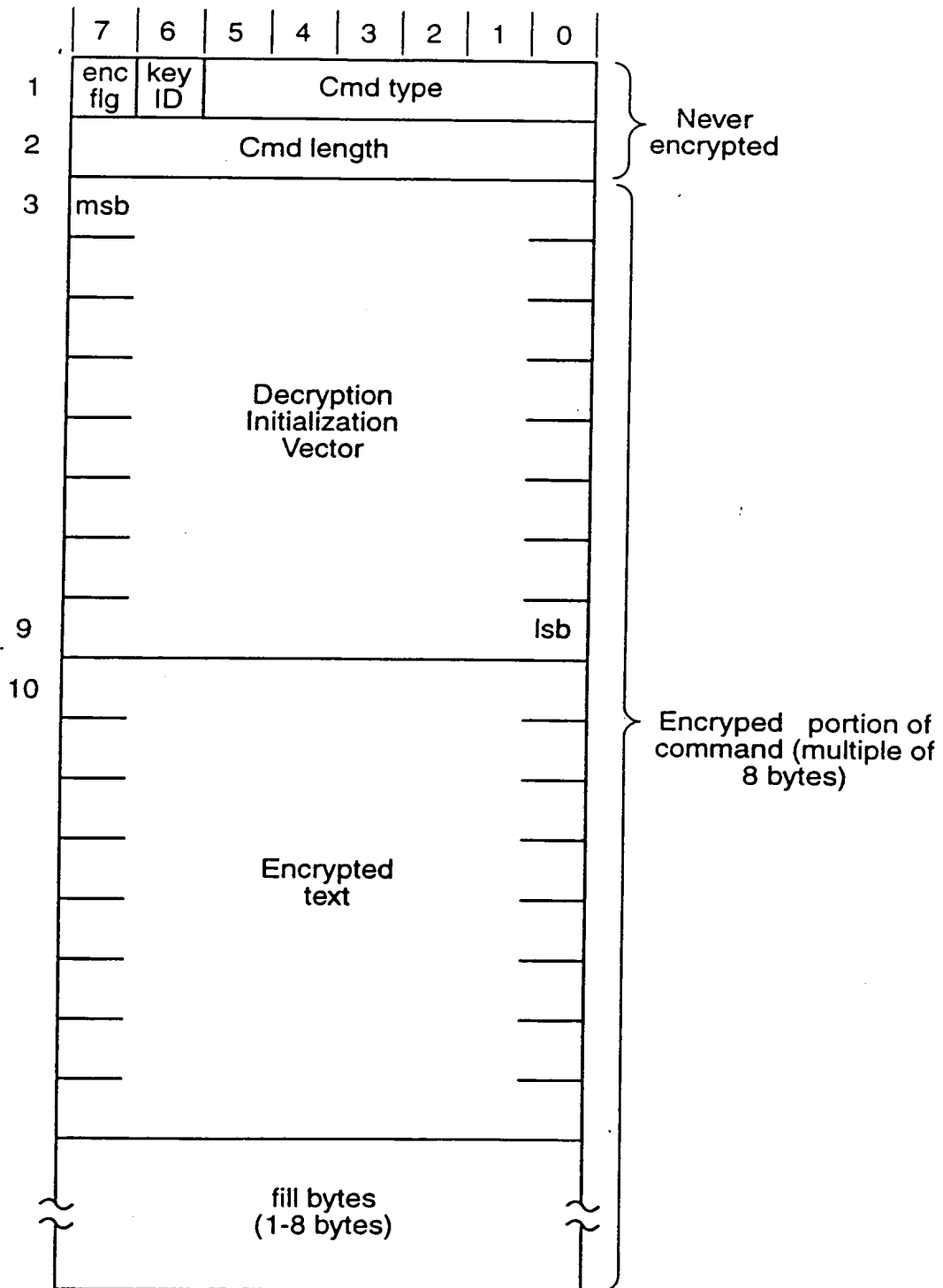
**FIG. 6**

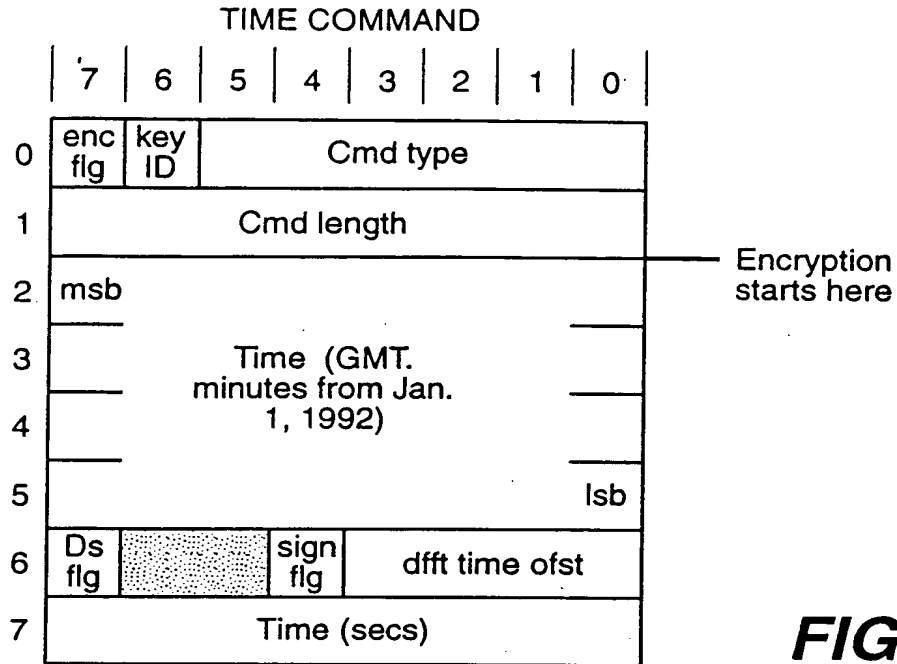
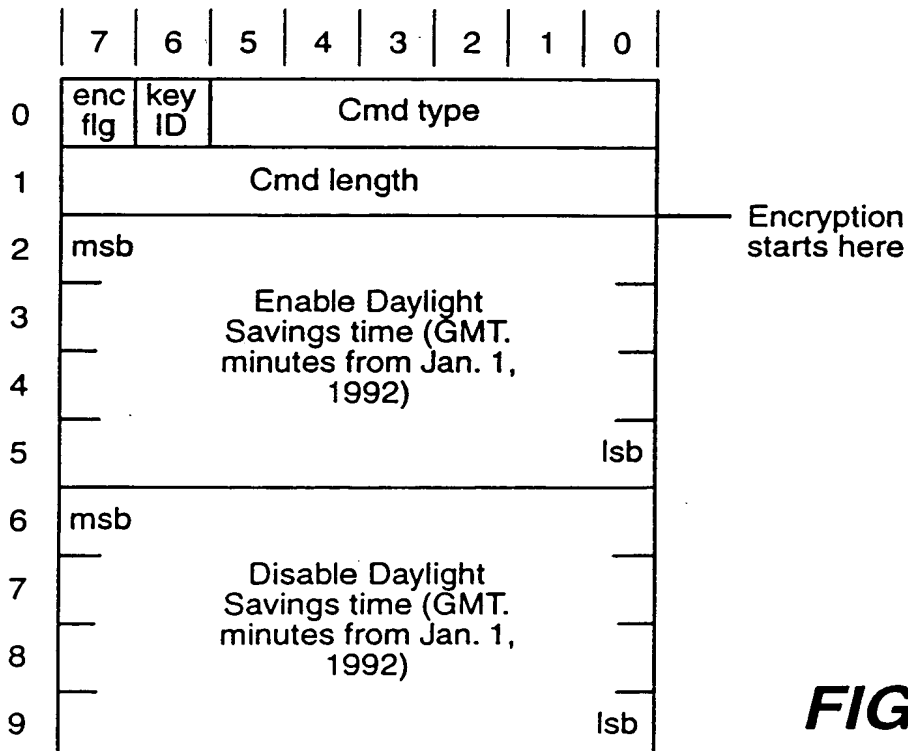
PACKET

**FIG. 7**

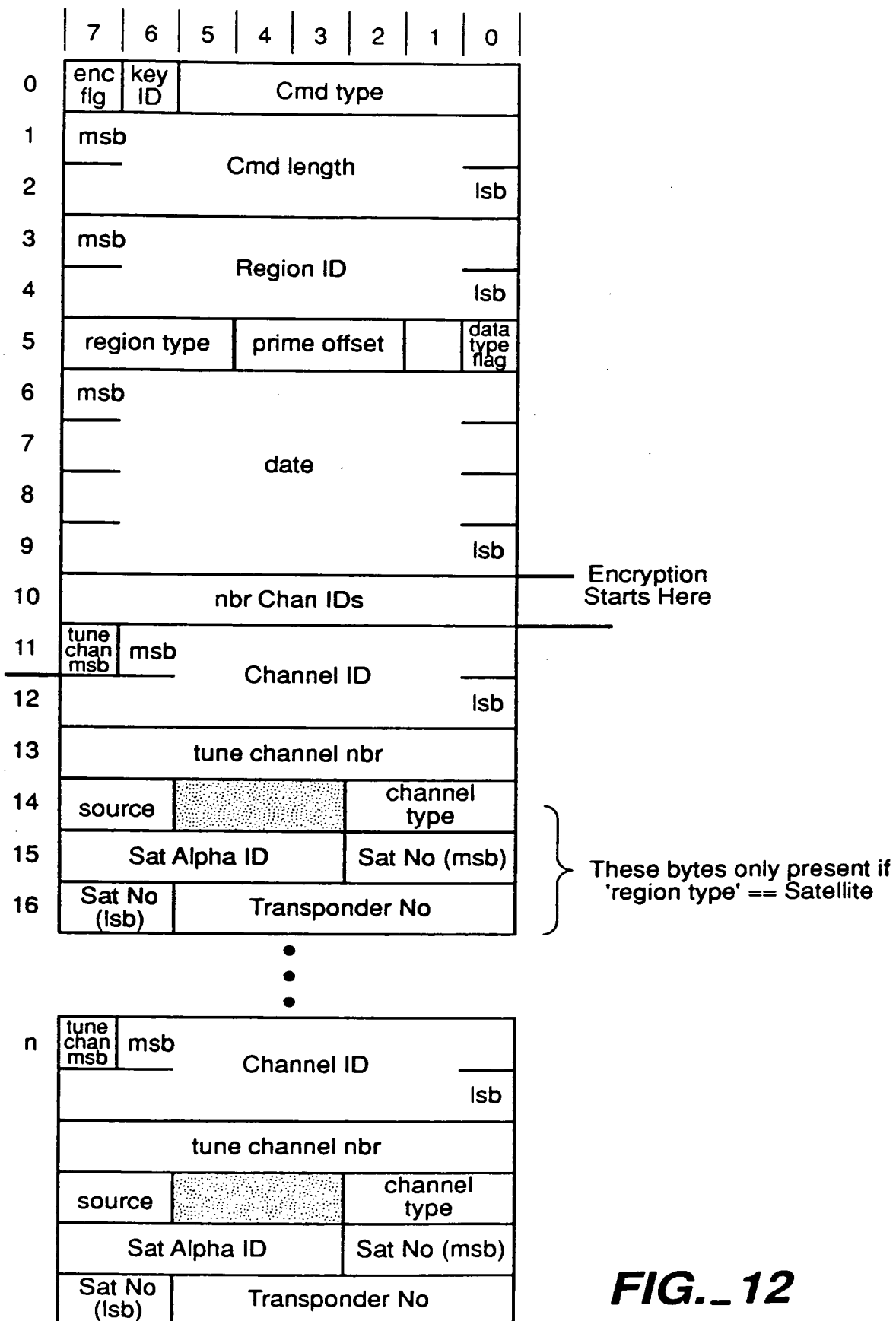
**FIG._8**

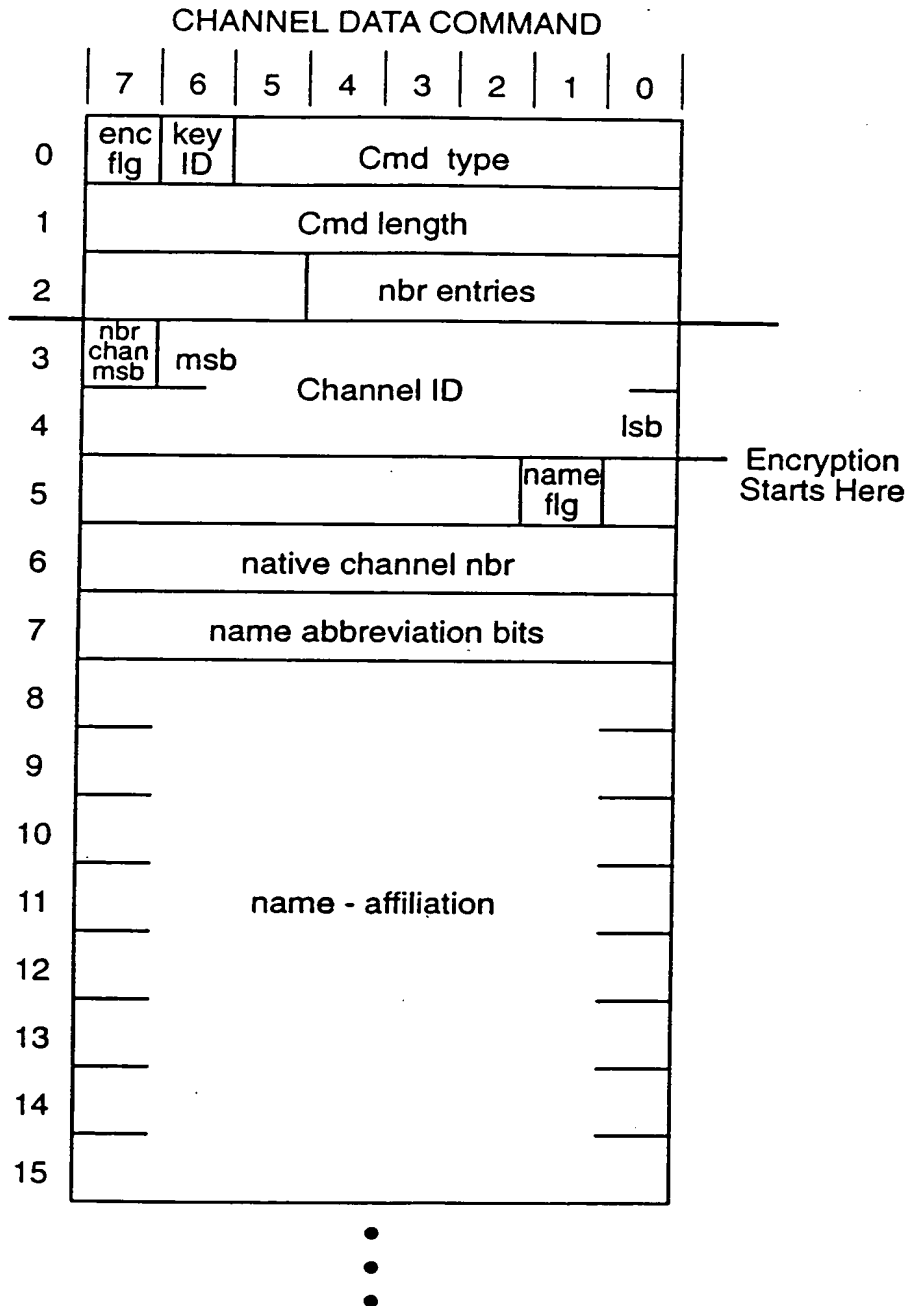
GENERAL ENCRYPTED COMMAND FORMAT

**FIG._9**

**FIG._10****DAYLIGHT SAVING TIME CHANGE COMMAND****FIG._11**

REGION COMMAND

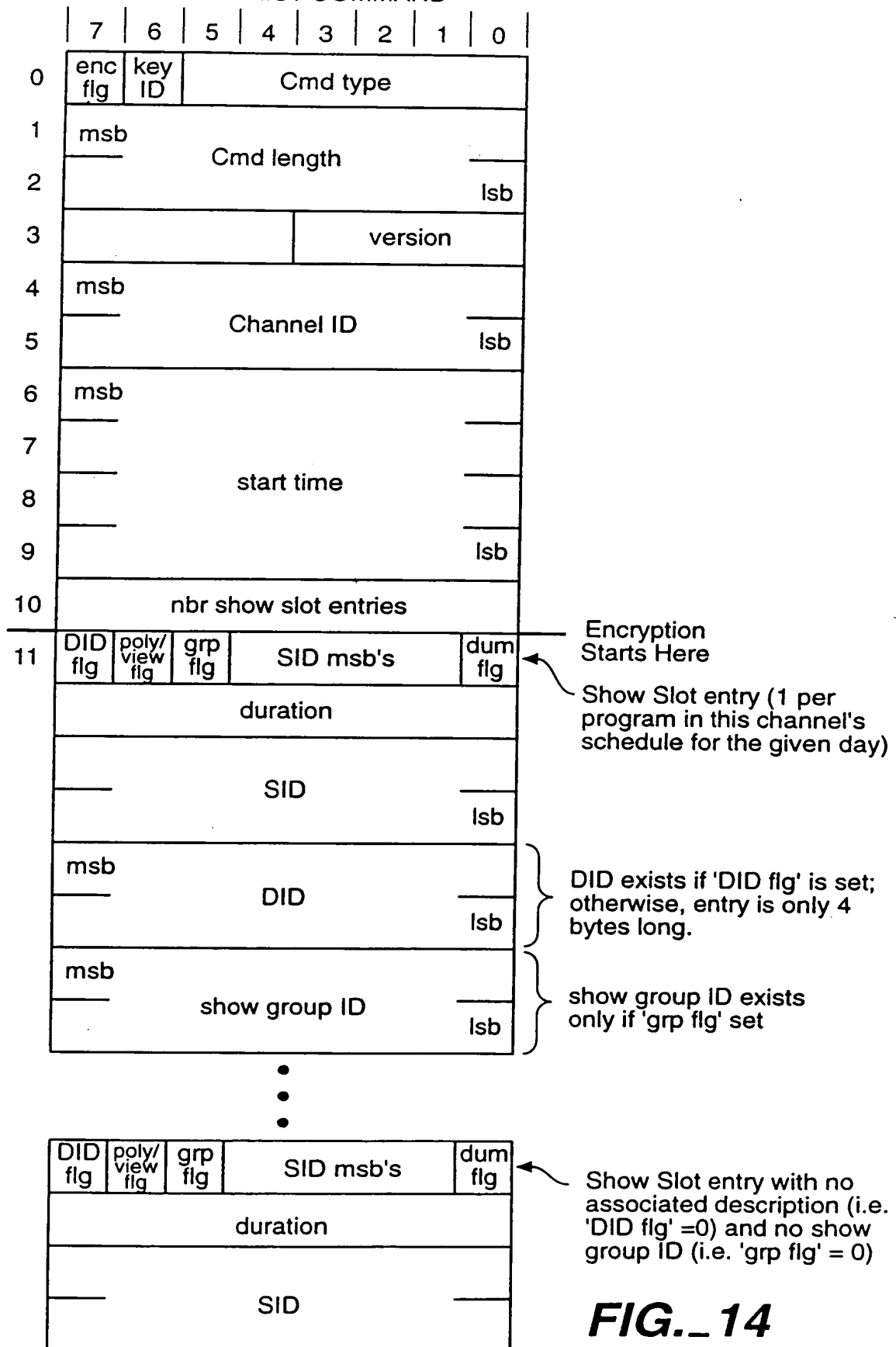
**FIG._12**



Encryption
Starts Here

FIG. 13

SHOWLIST COMMAND

**FIG._14**

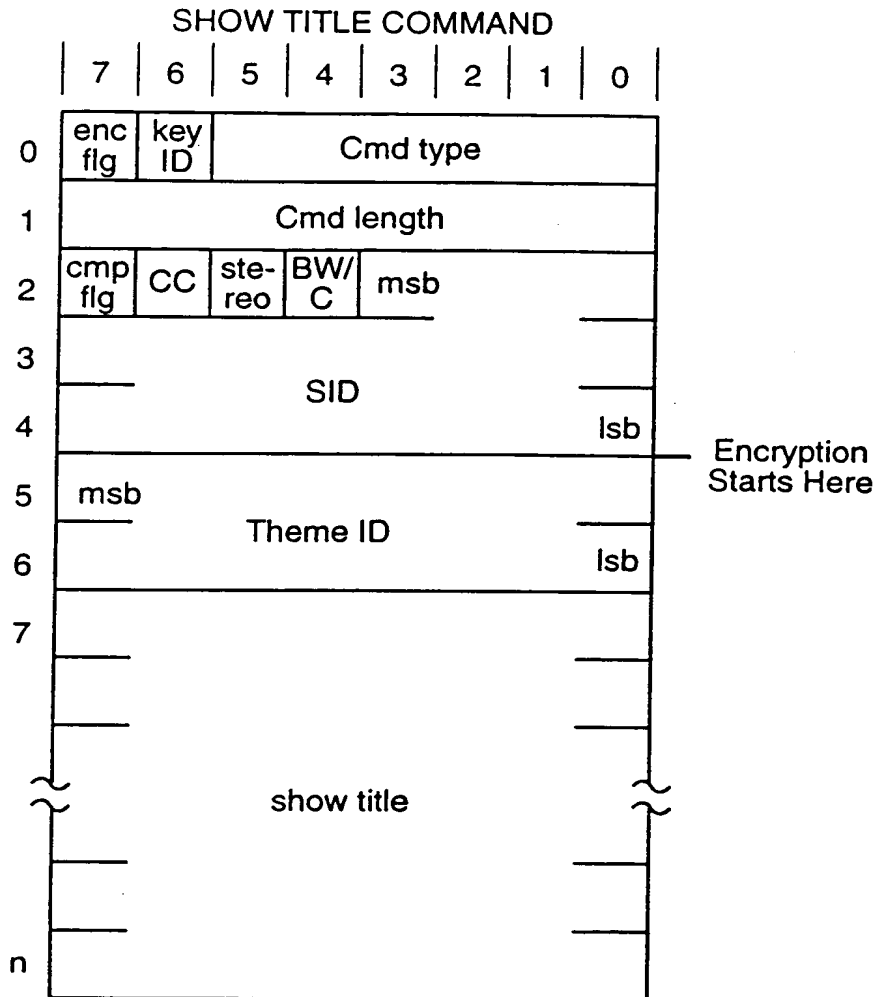
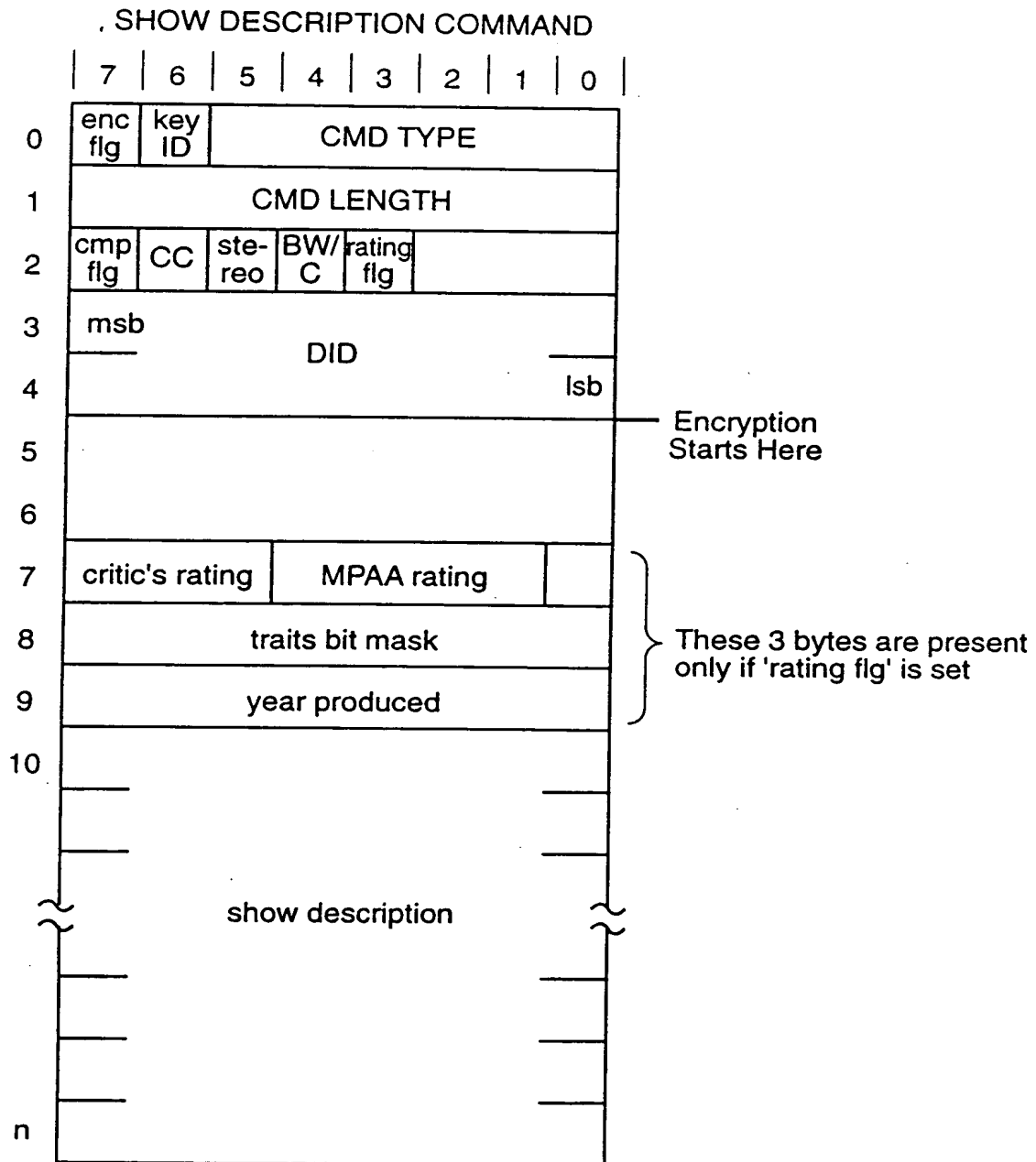
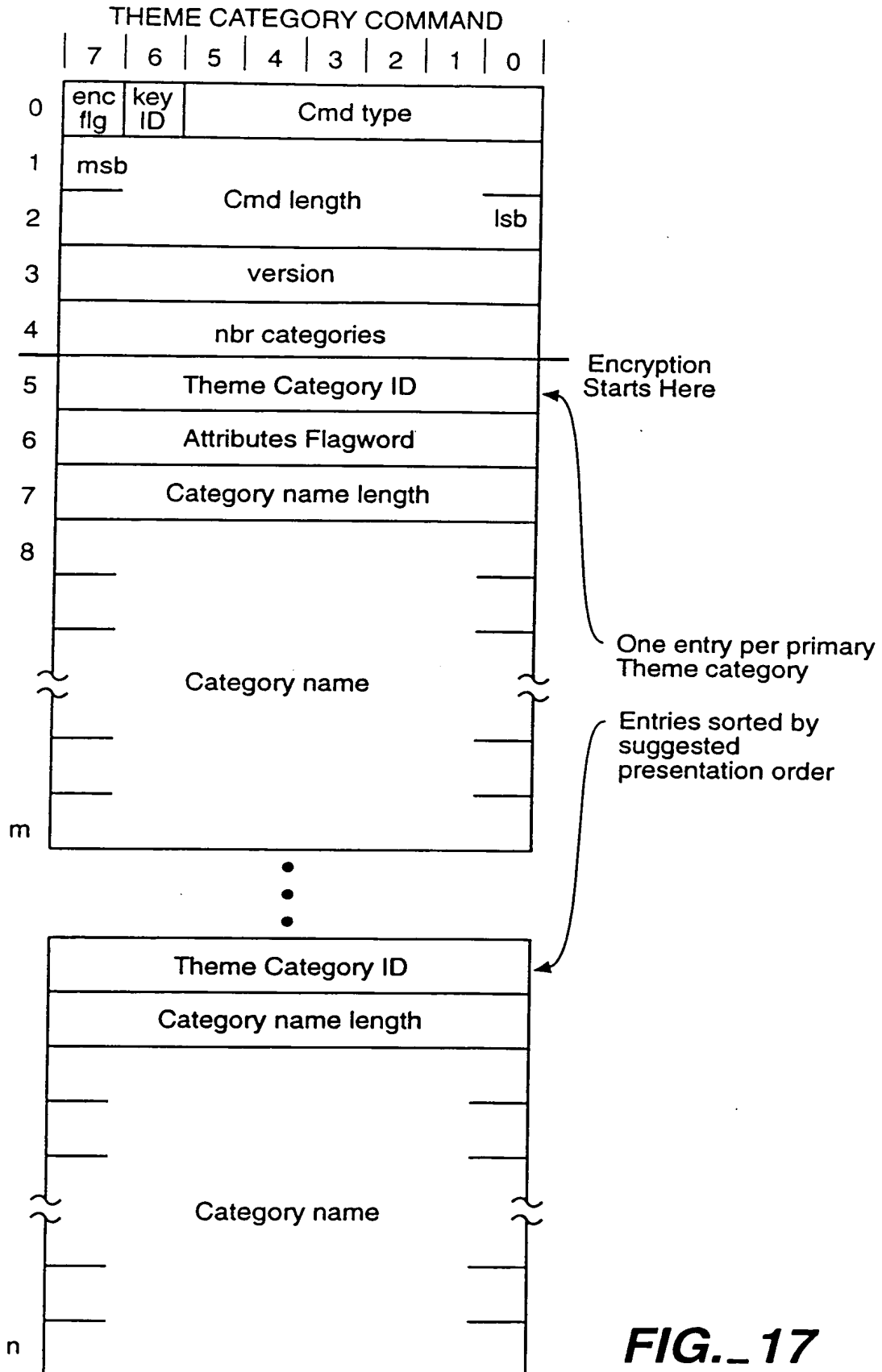


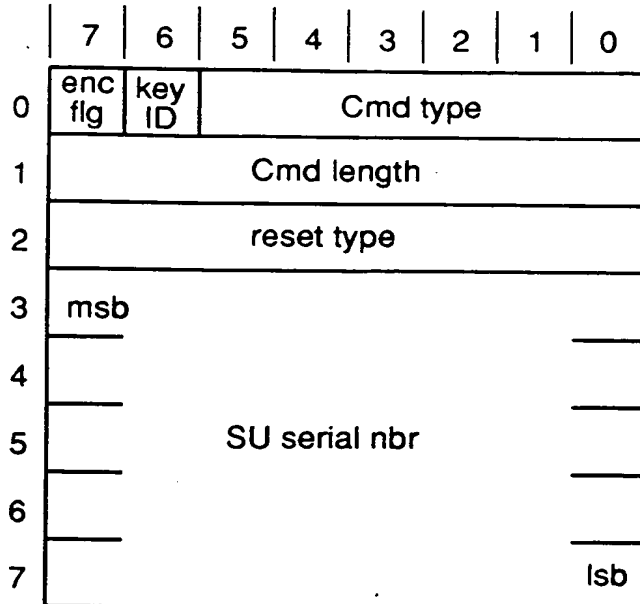
FIG._15

**FIG. 16**

**FIG._17**



SUBSCRIBER UNIT RESET COMMAND

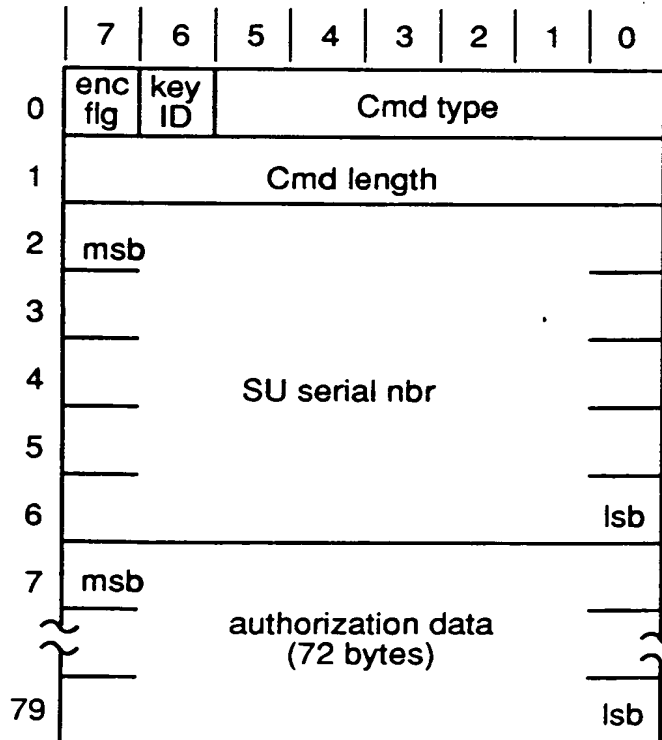


All 0's indicates a
group broadcast

Encryption Starts Here
in future Command
Definitions

FIG._19

AUTHORIZATION COMMAND



encrypted with SU's
public RSA key

FIG._20

AUTHORIZATION COMMAND 'AUTHORIZATION
FIELD'(NOT ENCRYPTED)

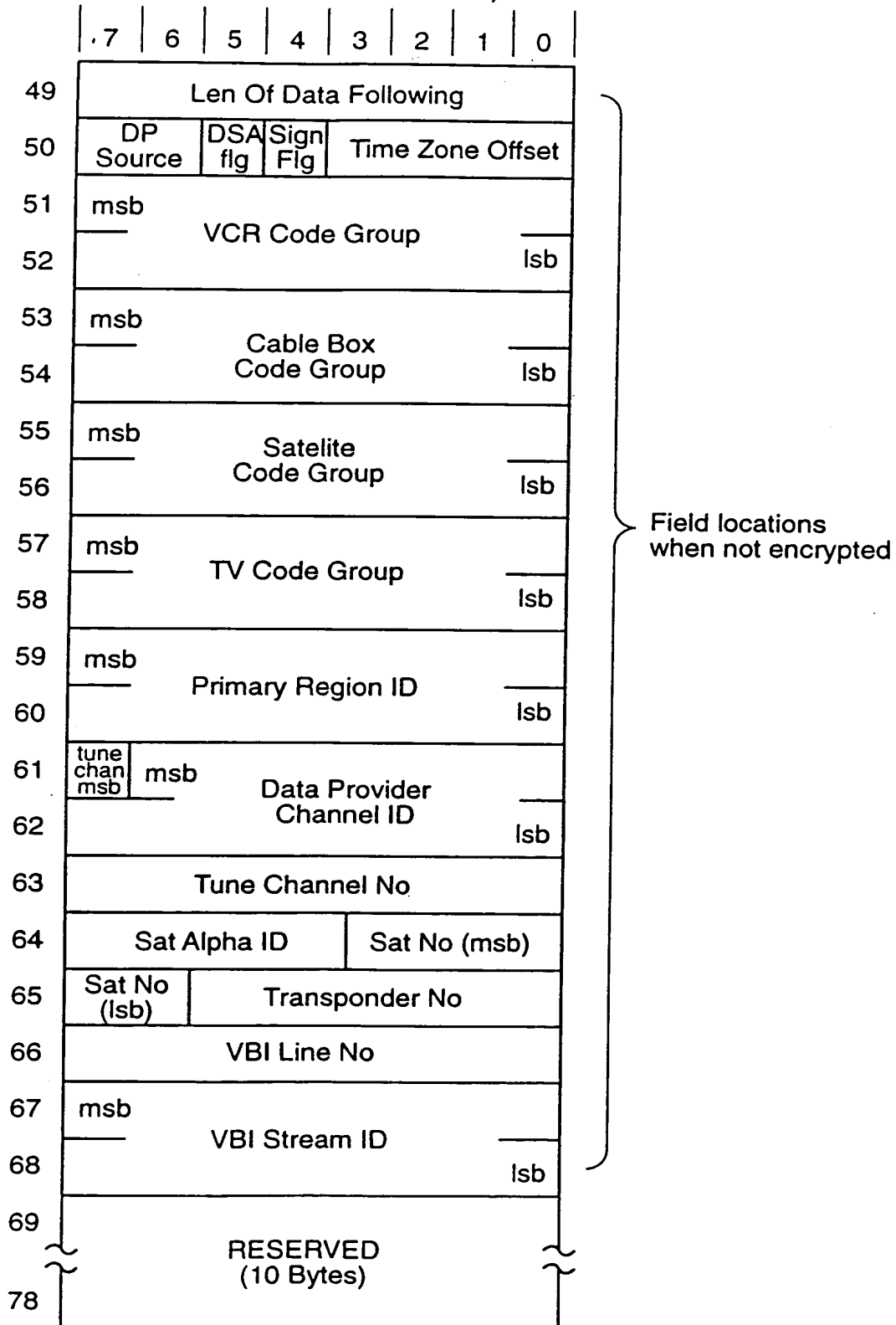


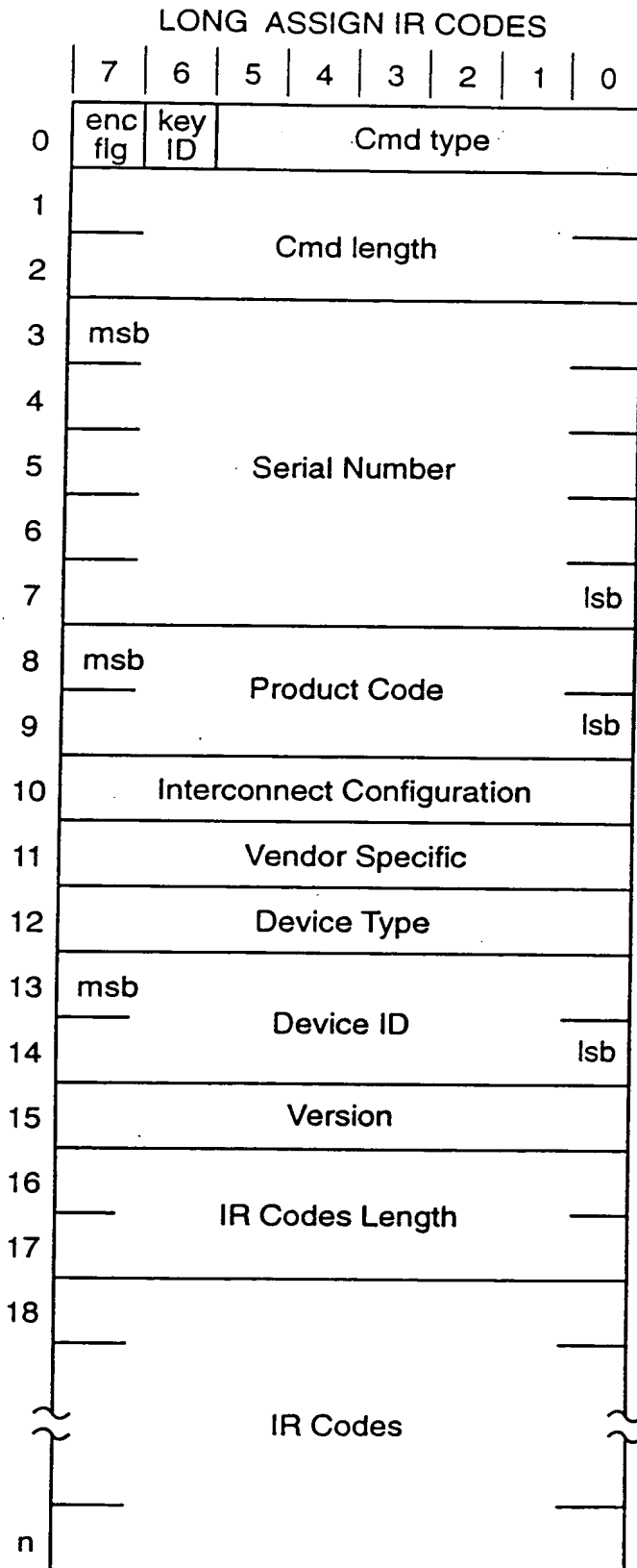
FIG._21

AUTHORIZATION COMMAND 'AUTHORIZATION
FIELD'(NOT ENCRYPTED)

	7	6	5	4	3	2	1	0
49	Len Of Data Following							
50	DP Source		DSA flg	Sign Flg	Time Zone Offset			
51	msb							
52	VCR Code Group							lsb
53	msb							
54	Cable Box Code Group							lsb
55	msb							
56	Satelite Code Group							lsb
57	msb							
58	TV Code Group							lsb
59	msb							
60	Primary Region ID							lsb
61	tune chan msb	msb						
62	Data Provider Channel ID							lsb
63	Tune Channel No							
64	Sat Alpha ID				Sat No (msb)			
65	Sat No (lsb)		Transponder No					
66	VBI Line No							
67	msb							
68	VBI Stream ID							lsb
69	RESERVED (10 Bytes)							
78								

Field locations
when not encrypted

FIG._22



Serial Number = 0
means command applies
to all units having a
matching Product Code,
Device Type, and Device
ID.

Interconnect Configuration =
0xFF means keep the user's
current interconnect
configuration.

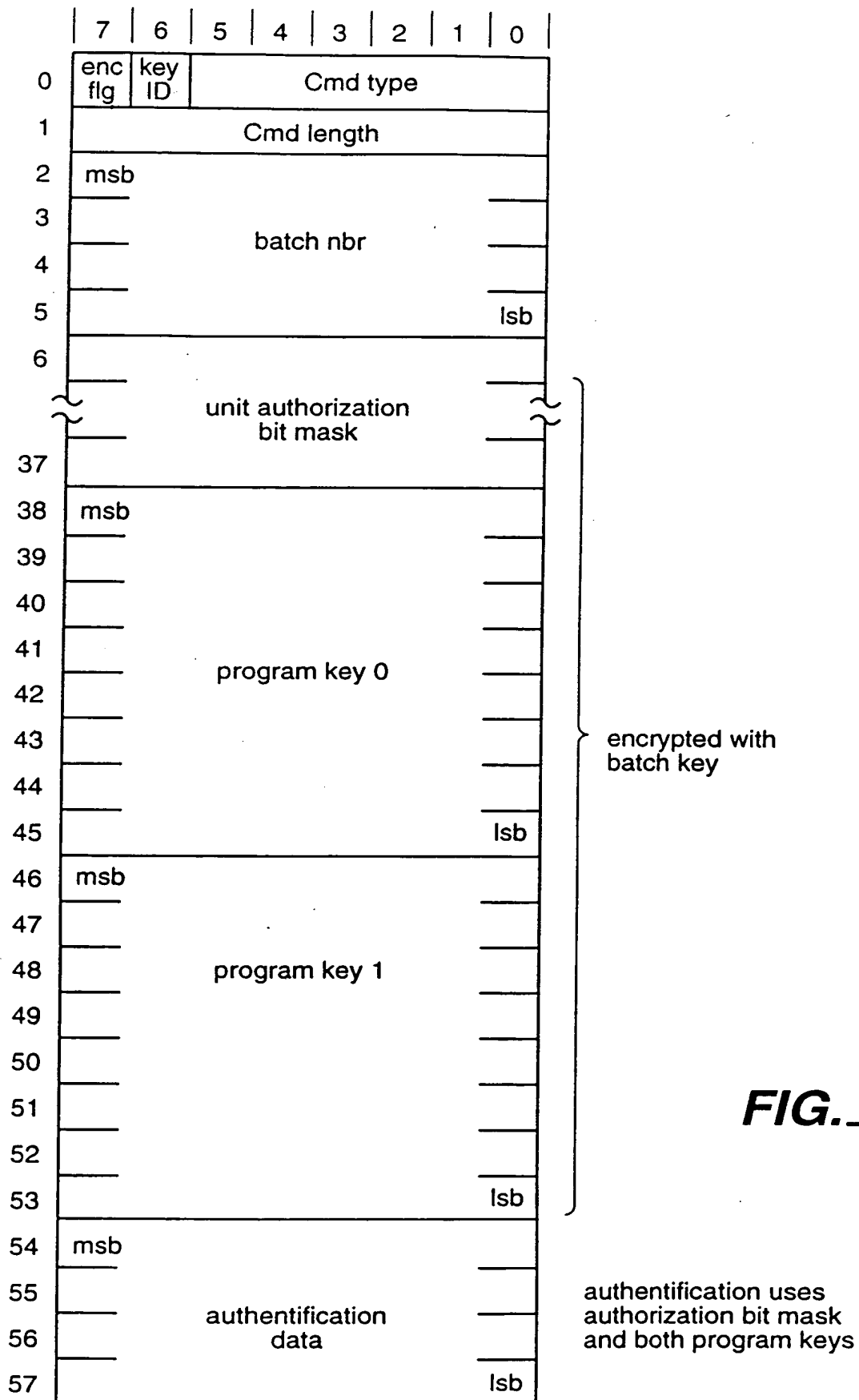
Vendor Specific field value
depends on the Product
Code. E.g. for Zenith TVs
this is the Tune Method.

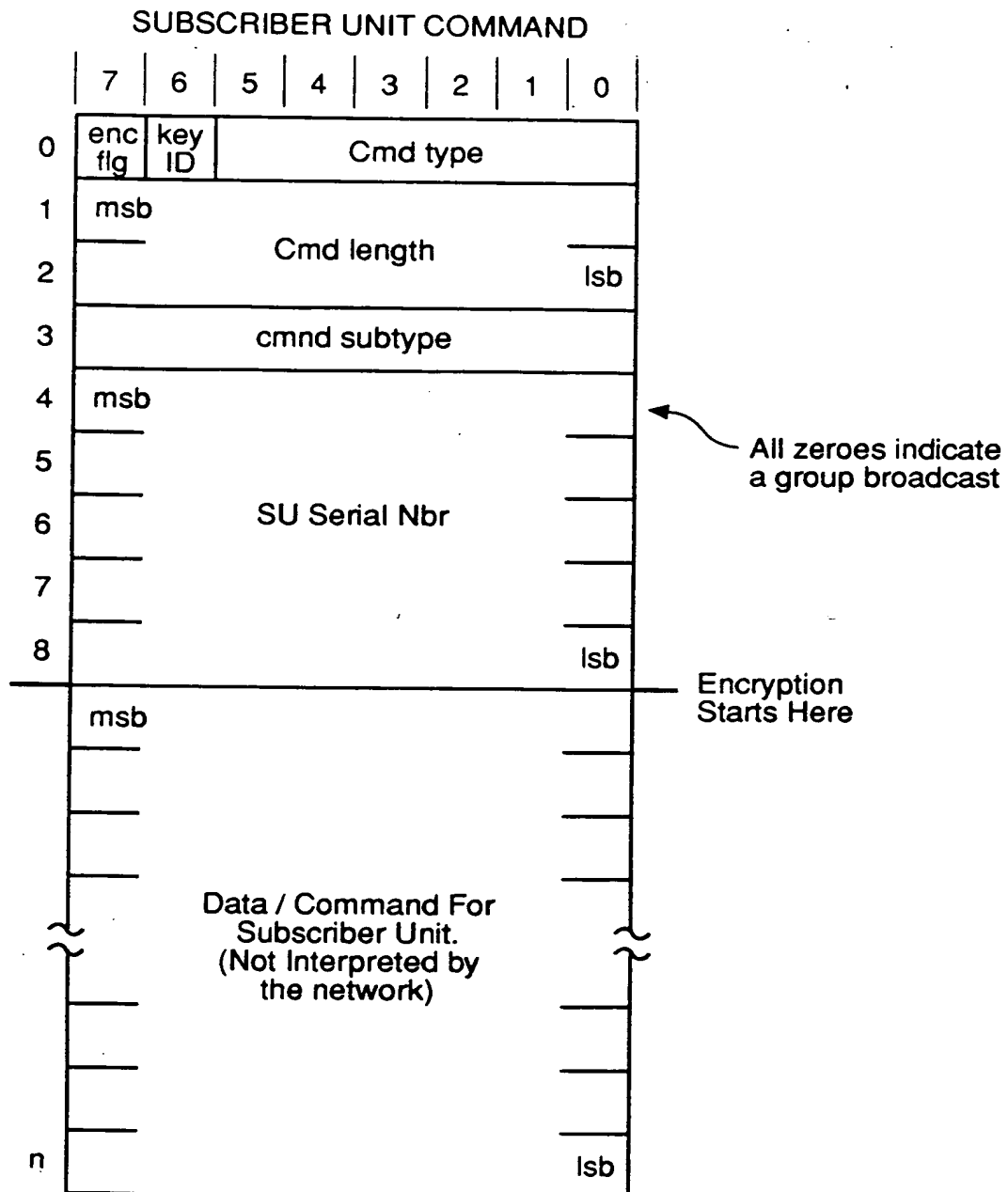
IR Codes Length = 0 means set
the appropriate code group and
system interconnect
configuration values only. i.e.
don't download IR codes to the
URC chip.

Structure within the IR Codes
field is determined by the
Universal Remote Control chip
vendor.

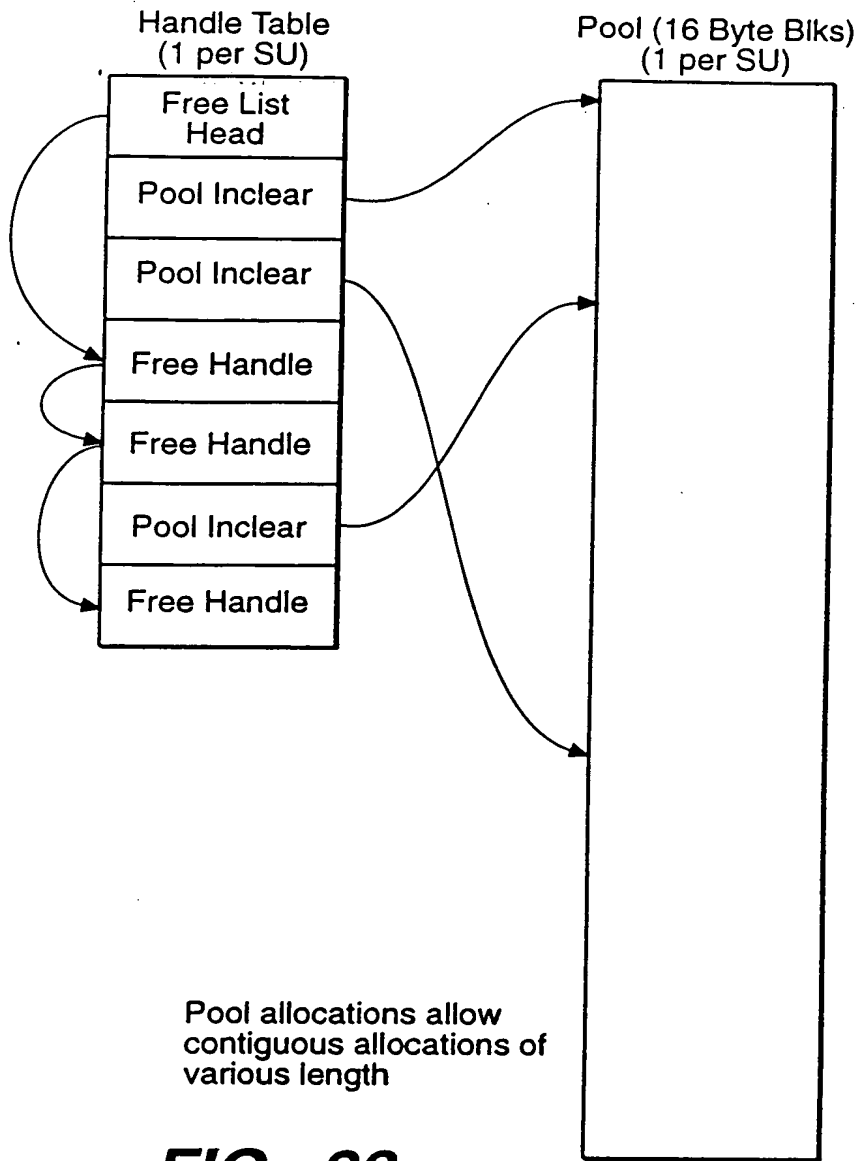
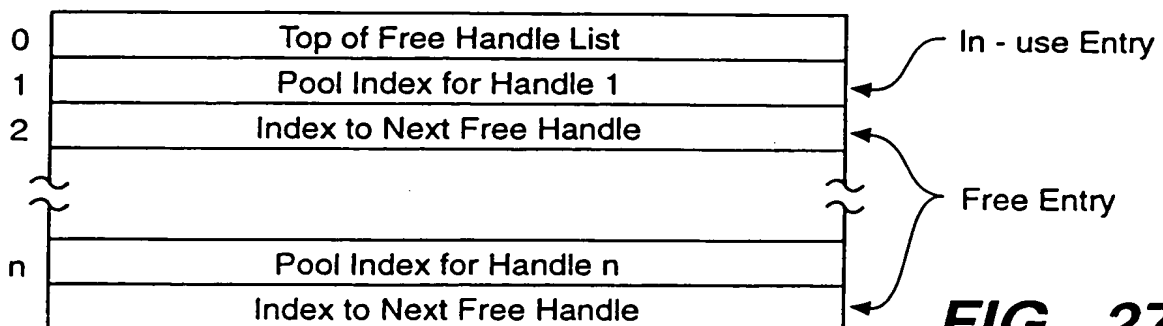
FIG. 23

KEY DISTRIBUTION COMMAND

**FIG..24**

**FIG. 25**

DATABASE MEMORY POOL ACCESS SCHEME

**FIG._26****FIG._27**

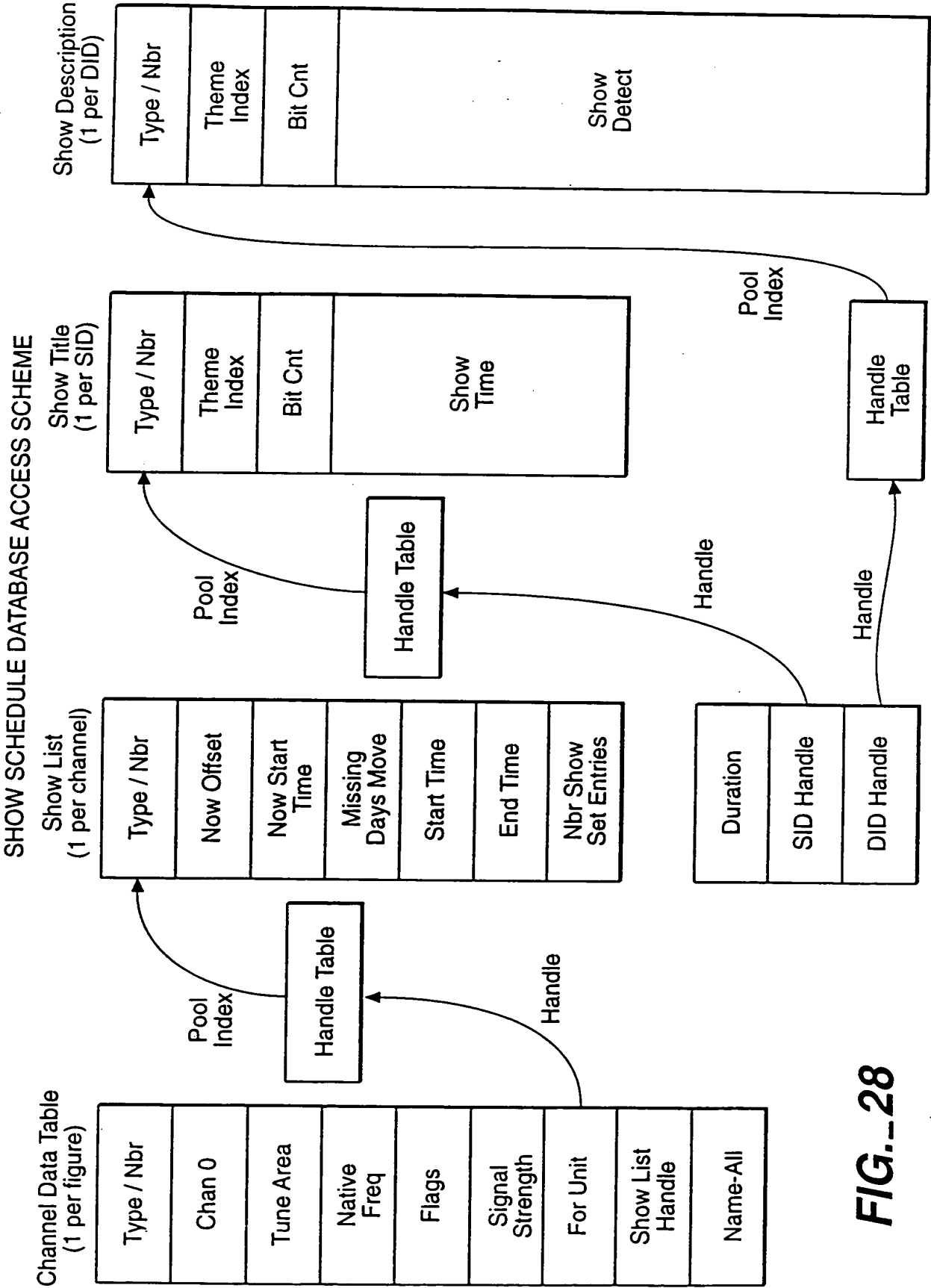


FIG._28

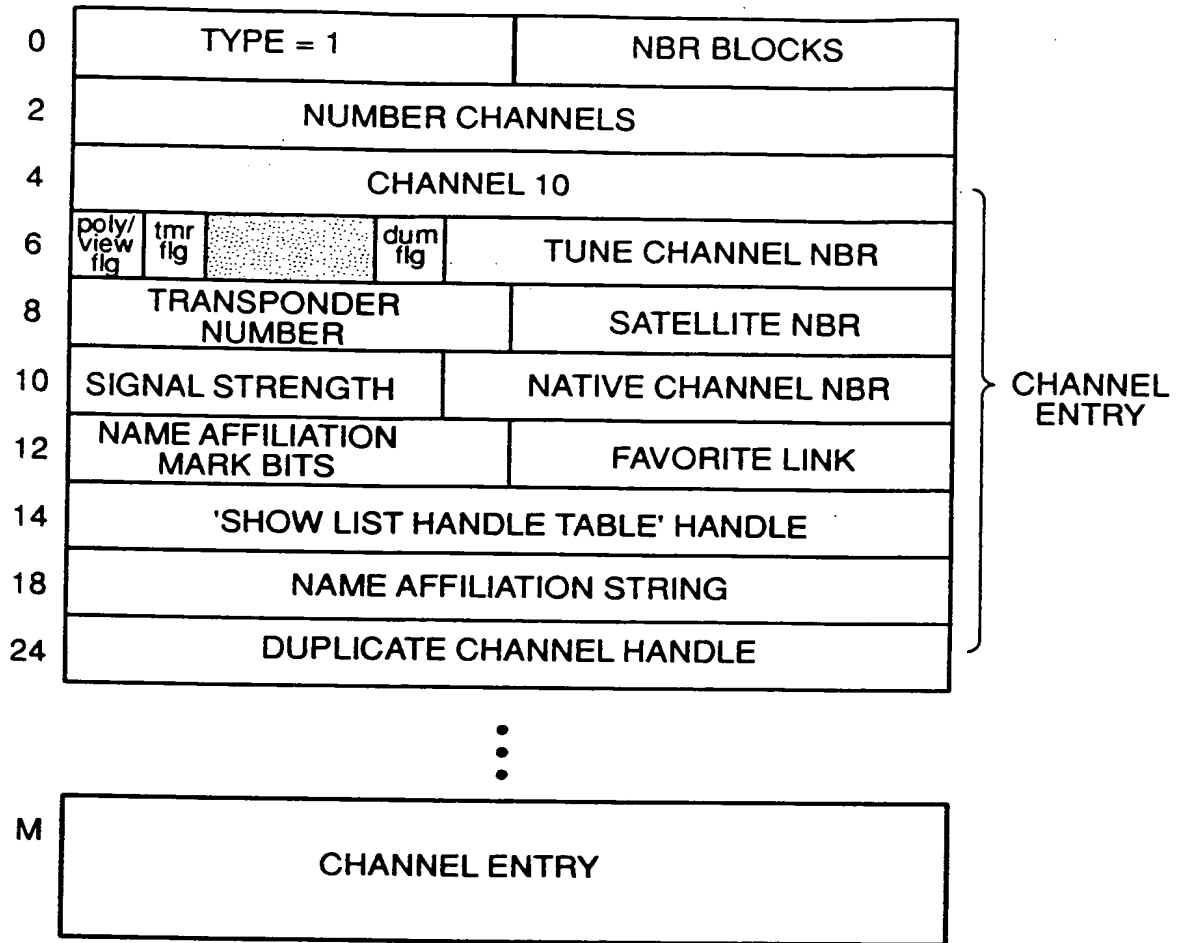


FIG._29

CHANNEL DUPLICATES TABLE

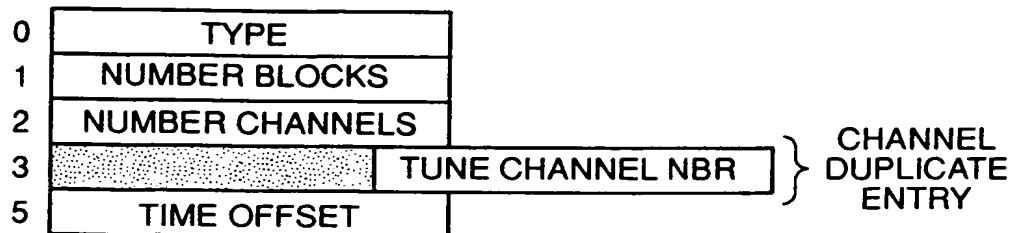
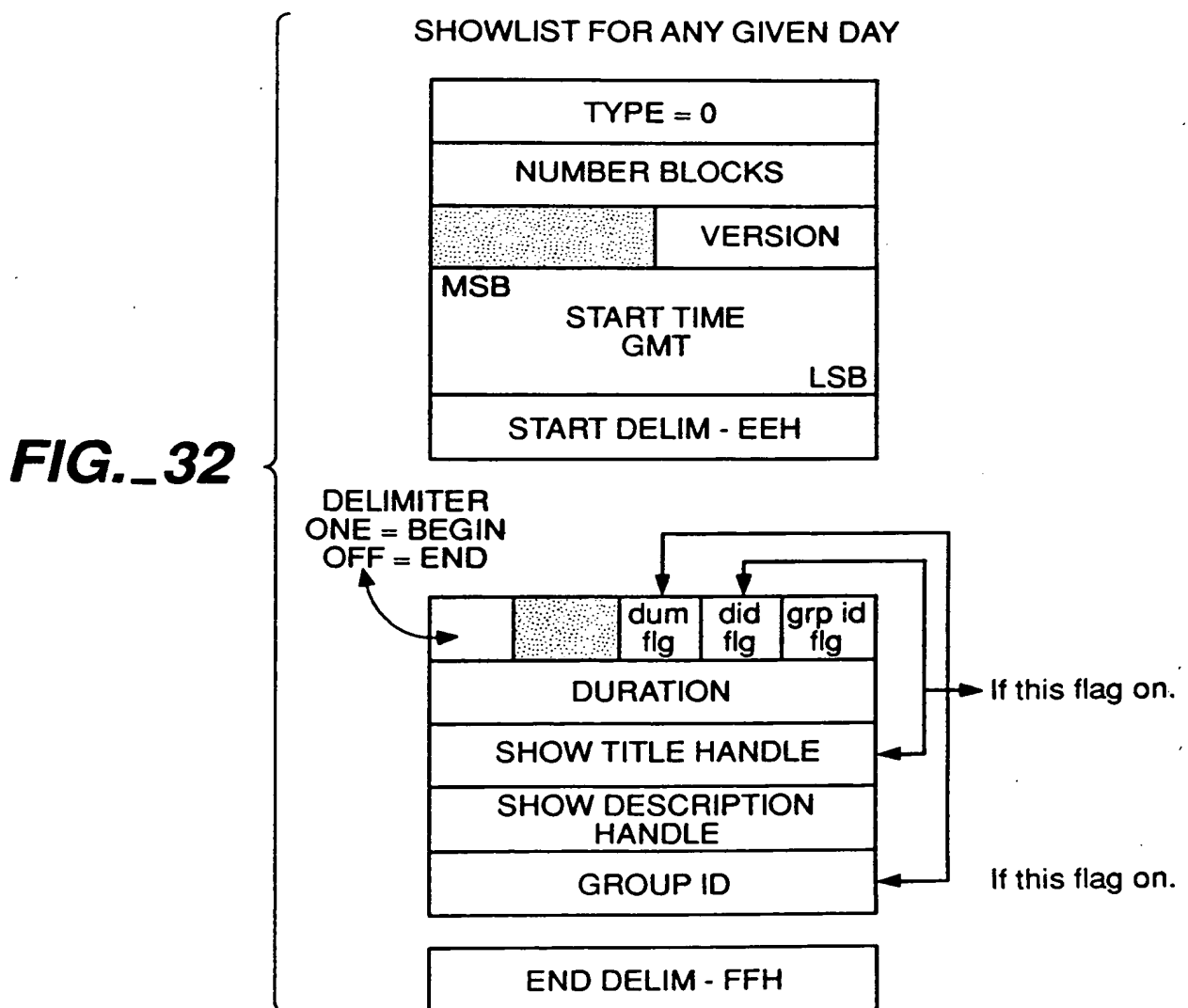
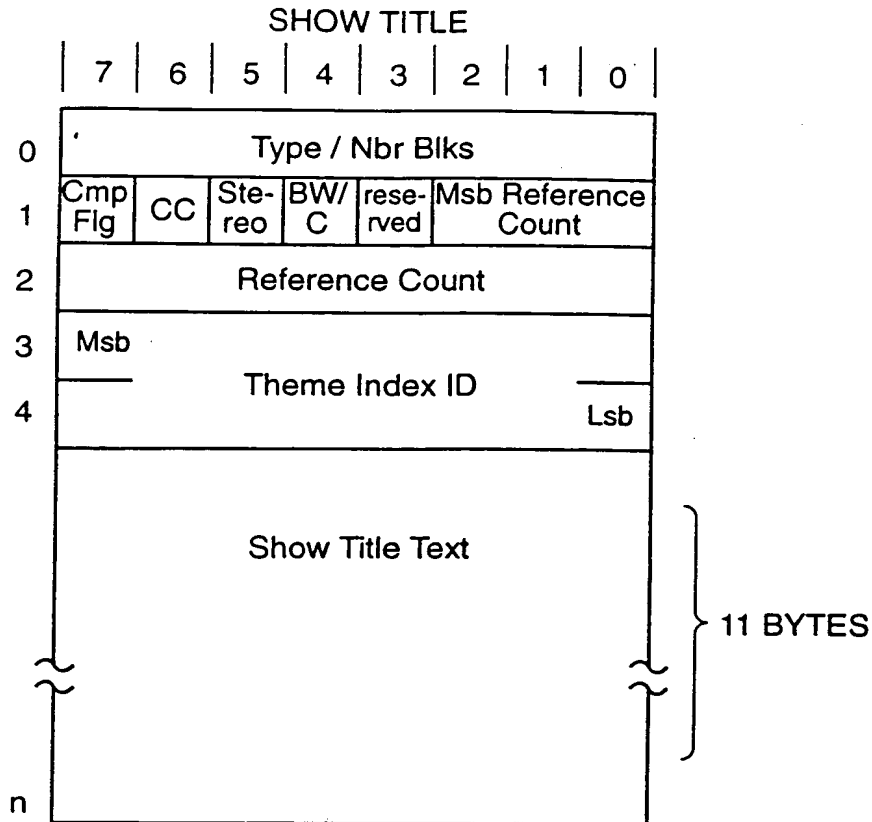
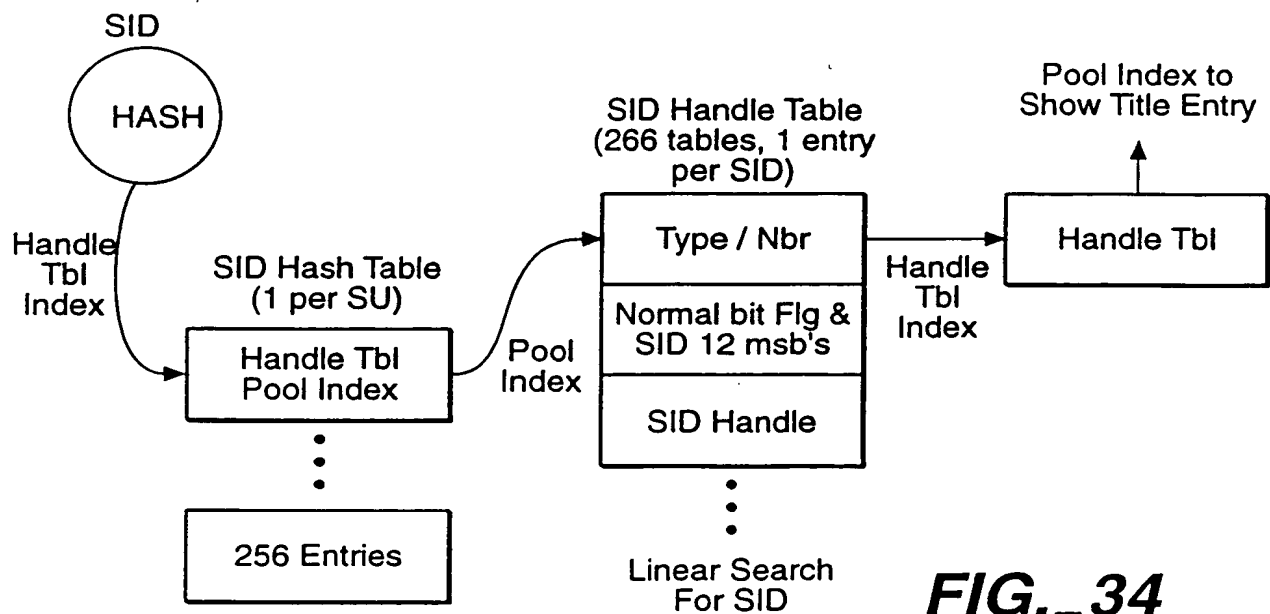


FIG._30

TYPE / NBR BLOCKS
REFERENCE COUNT
MONDAY SHOW LIST HANDLE
TUESDAY SHOW LIST HANDLE
WEDNESDAY SHOW LIST HANDLE
THURSDAY SHOW LIST HANDLE
FRIDAY SHOW LIST HANDLE
SATURDAY SHOW LIST HANDLE
SUNDAY SHOW LIST HANDLE

FIG._31

**FIG..33****FIG..34**

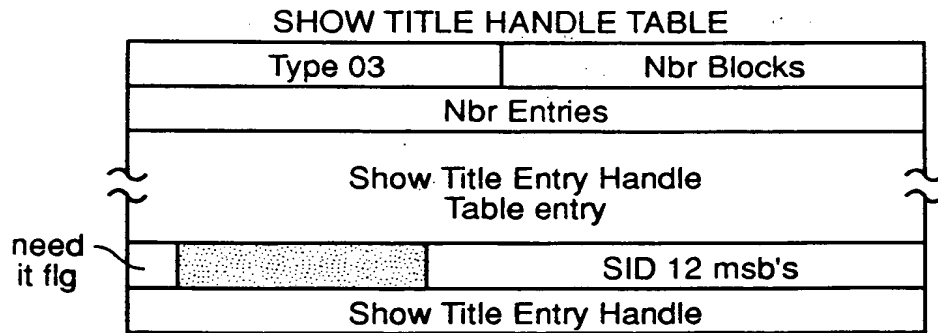


FIG._35

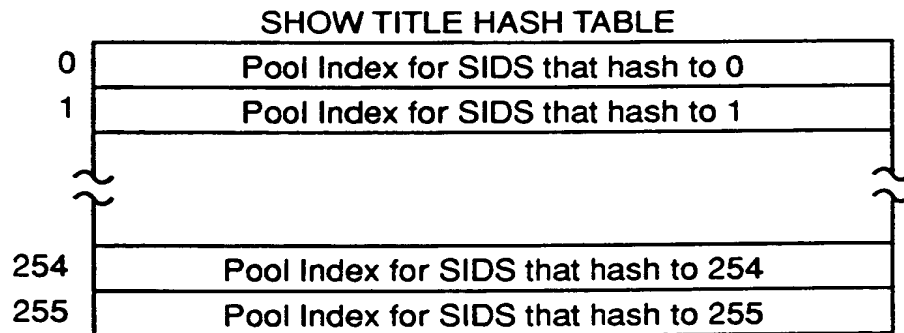
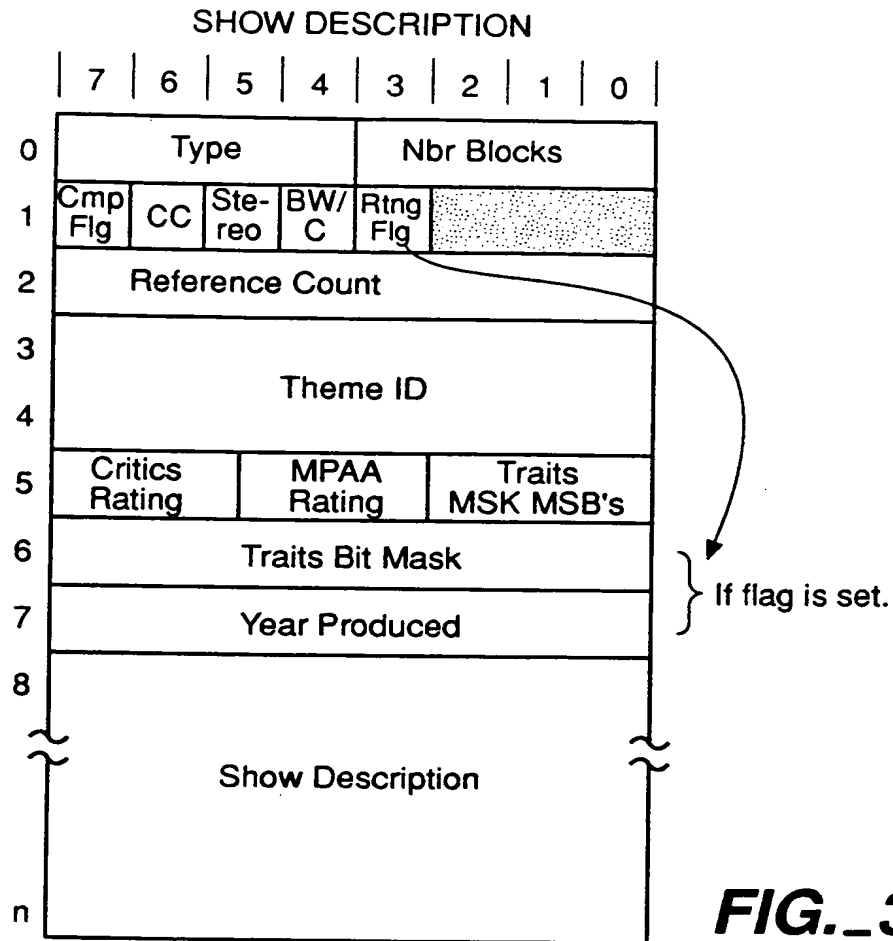
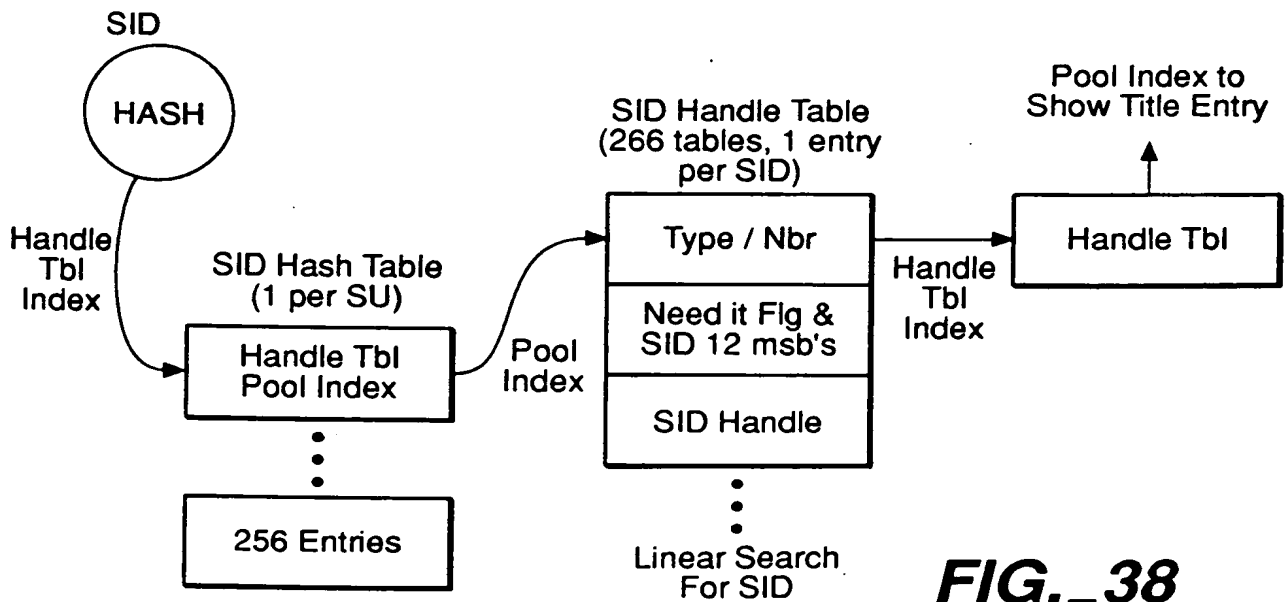
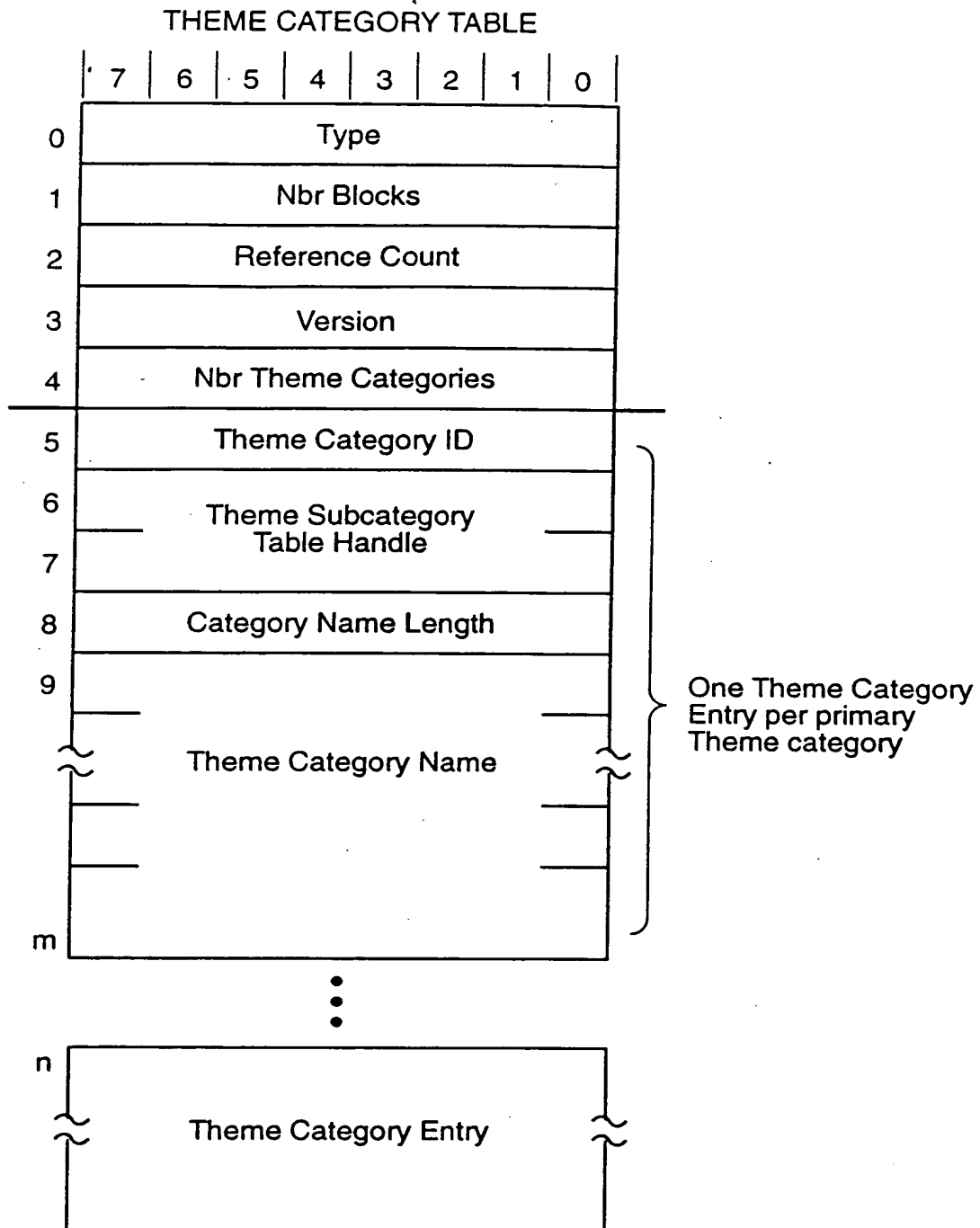
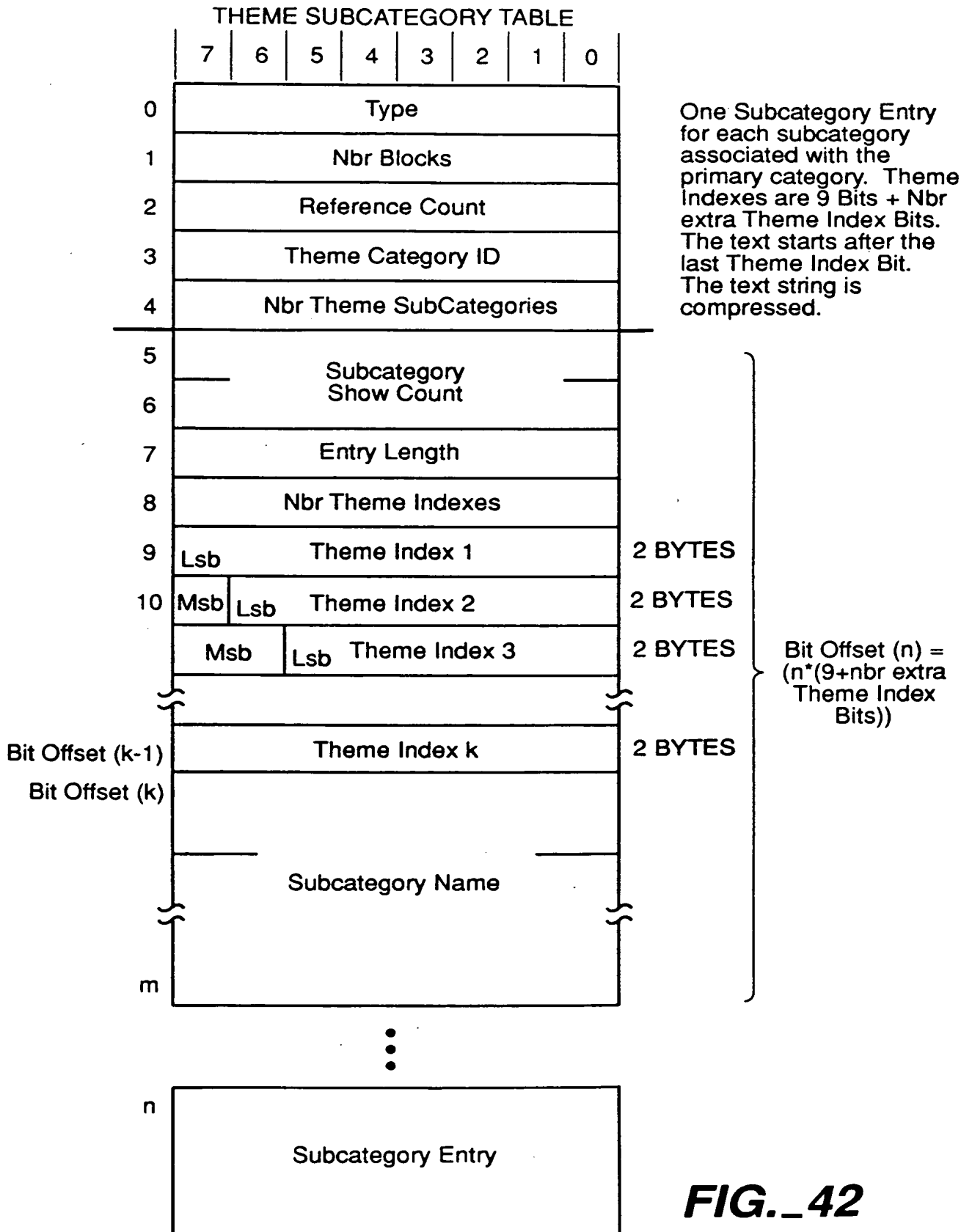


FIG._36

**FIG._37****FIG._38**

**FIG..41**



DRAW RECTANGLE

	7	6	5	4	3	2	1	0
0			Cmd type					
1	shadow width				shadow height			
2	shadow color 1				shadow color 2			
3	small font delta X				small font delta Y			
4	large font delta X							
5	large font delta Y							
6	highlight 1				highlight 2			
7	underline 11				underline 12			
8	underline 21				underline 22			

FIG._44

ERASE SCREEN

	7	6	5	4	3	2	1	0
0			Cmd type					
1			xpar color					

FIG._45

DRAW RECTANGLE

	7	6	5	4	3	2	1	0
0			Cmd type					
1	upper left X							
2	upper left Y							
3	width							
4	height							
5	fill color 1				fill color 2			
6	outline color 1				outline color 2			
7	fill	out-line	sha-dow	em-boss				

FIG._46

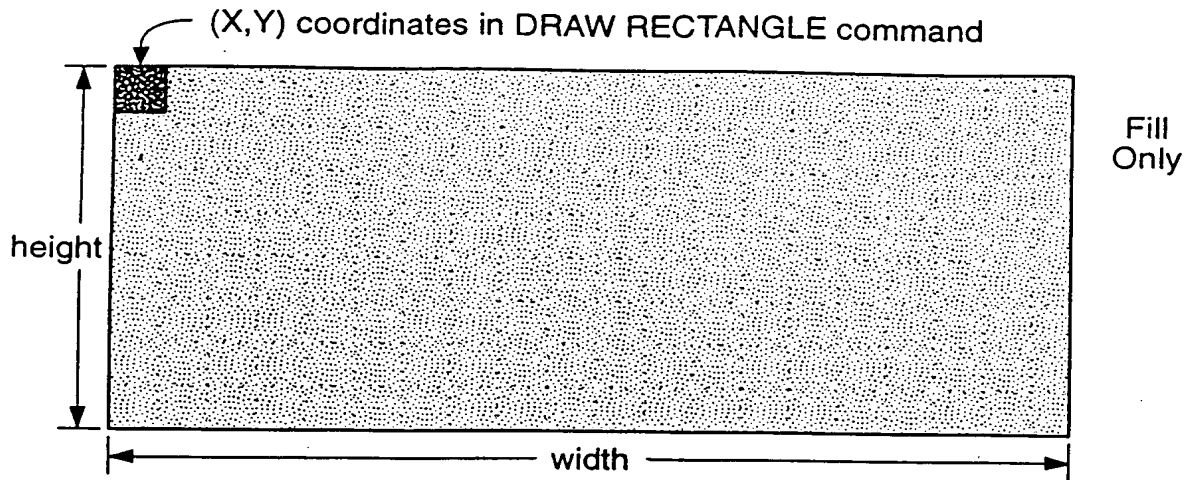


FIG._47A

Fill and Outline
(outline is one pixel high / wide)

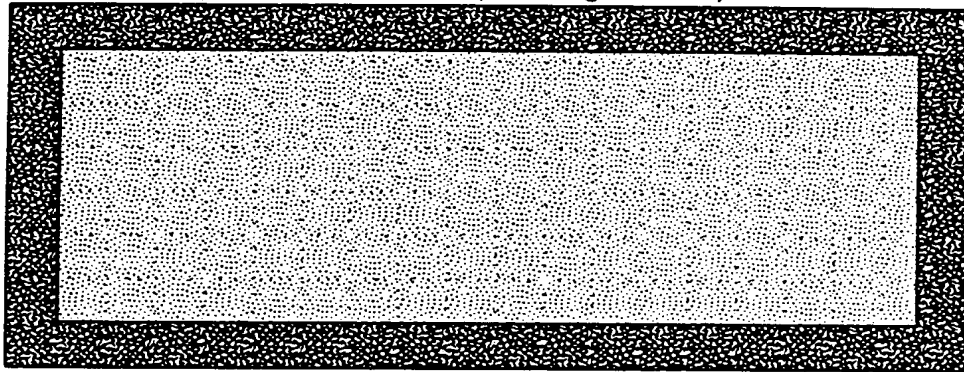


FIG._47B

(highlight and undrlines are one pixel high / wide)

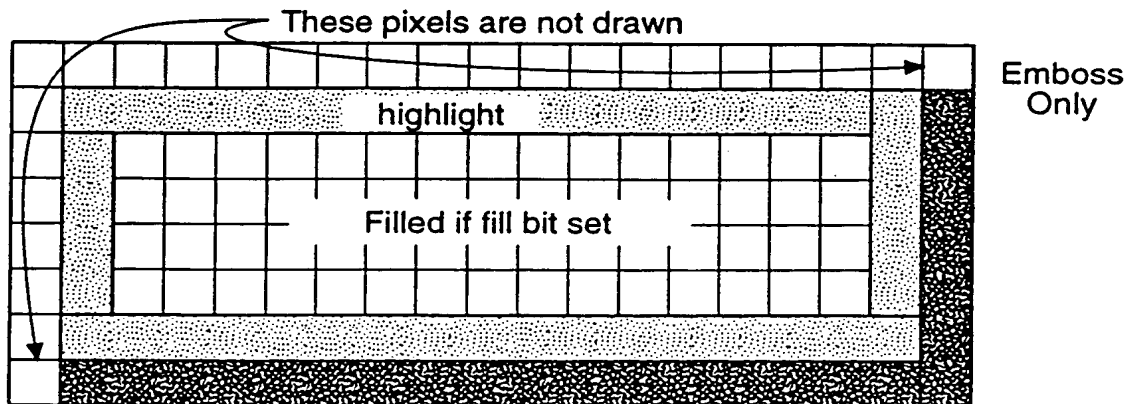


FIG._47C

Outline, Fill, and Emboss

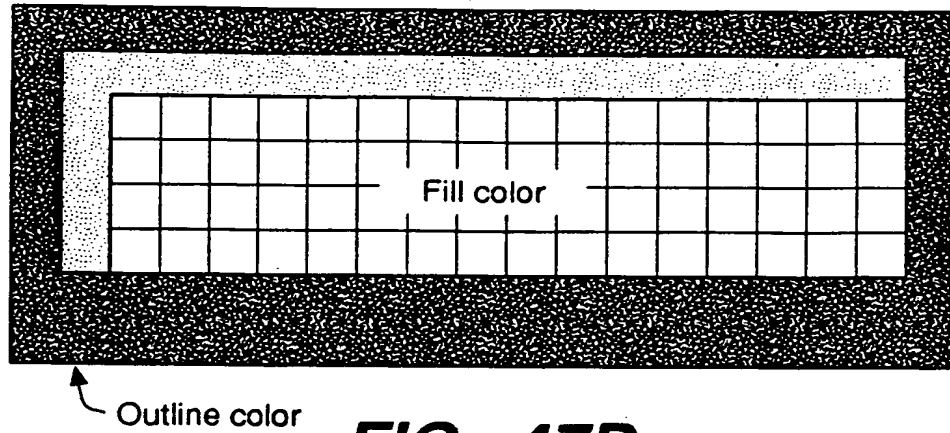


FIG._47D

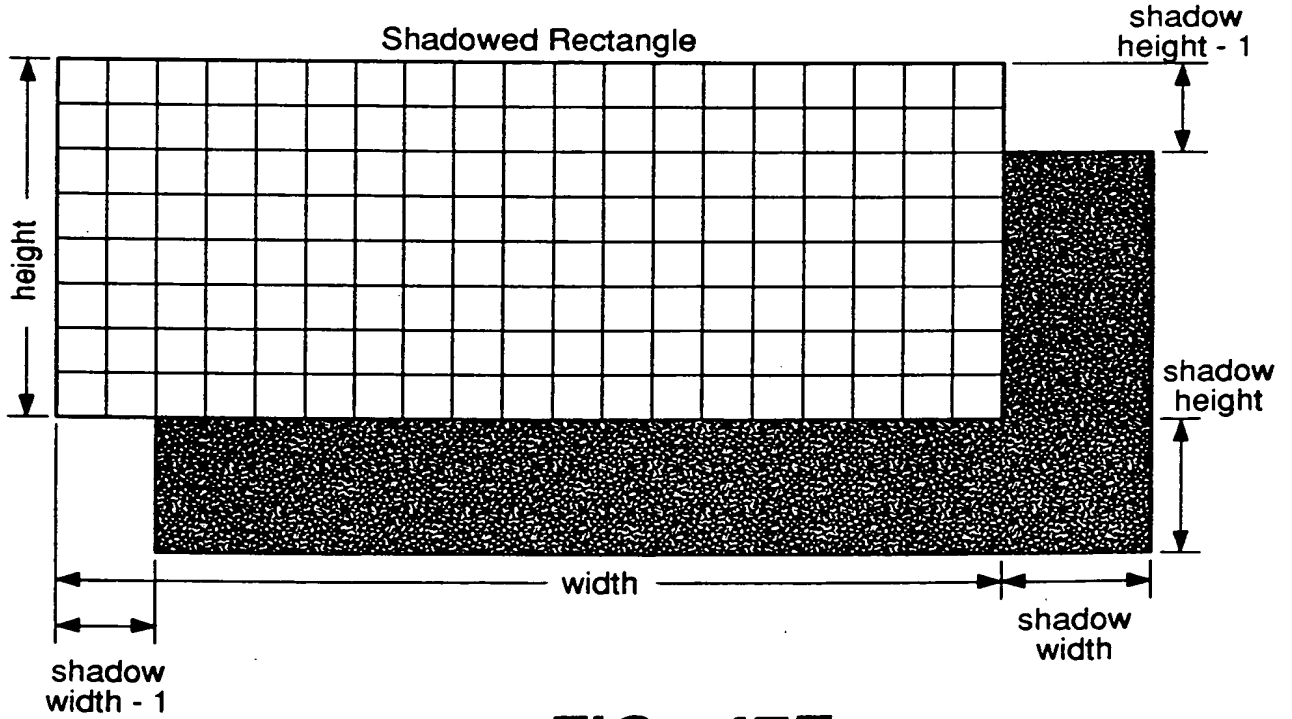
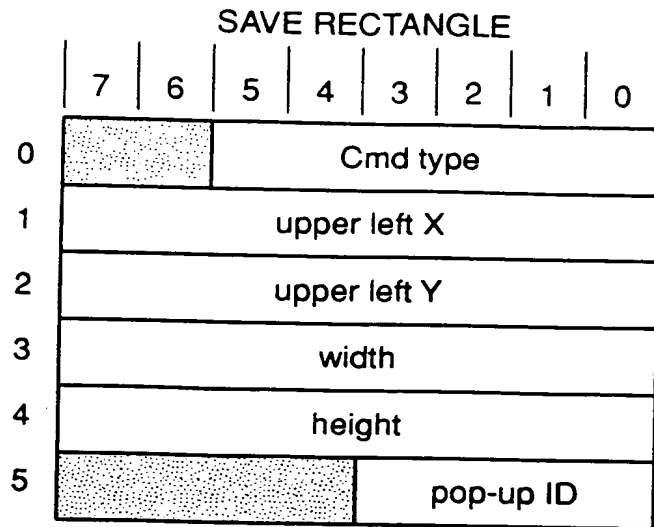
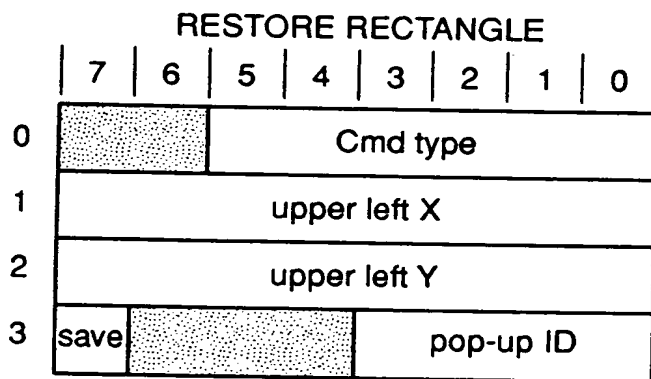
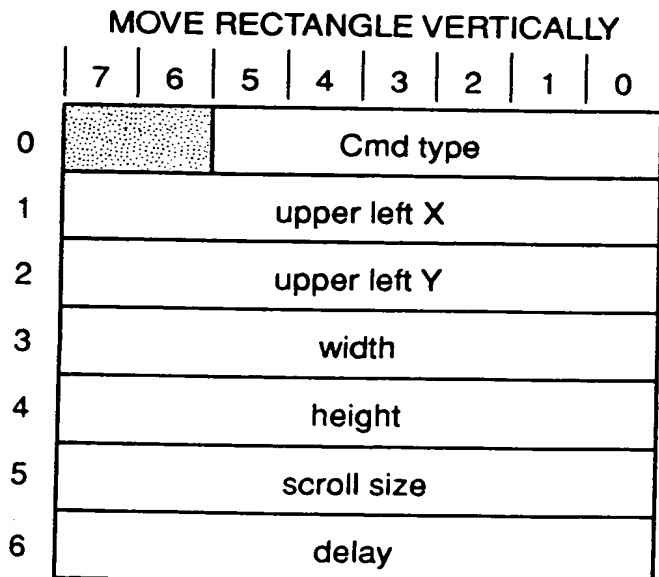
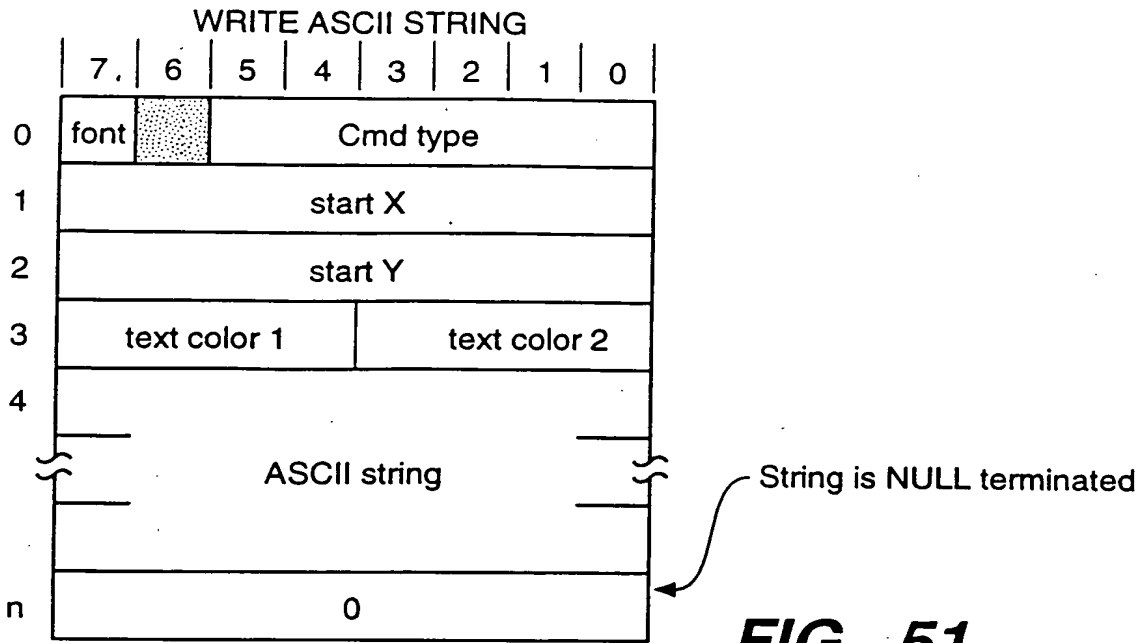
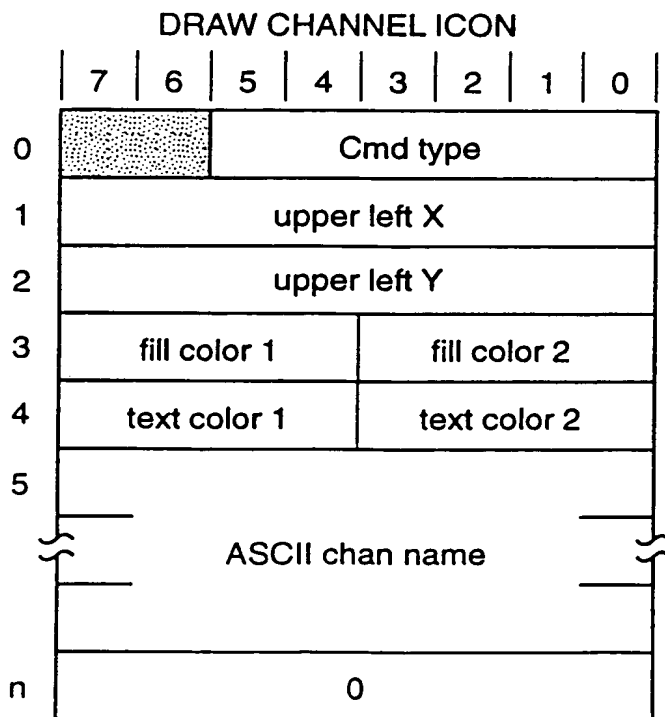


FIG._47E

**FIG._48****FIG._49****FIG._50**

**FIG._51****FIG._52**

(X,Y) in Draw Channel icon command



width = 17

CHANNEL ICON WHEN TEXT STRING = 3 CHARACTERS

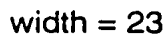


FIG. 53B

The diagram shows a 29x29 grid. The central 5x5 area is white, and the surrounding 24x24 area is black. The total width is labeled as 29. The horizontal distance between the centers of the white and black regions is labeled as $\text{delta } X = (\text{nbr chars} * 6) - 1$.

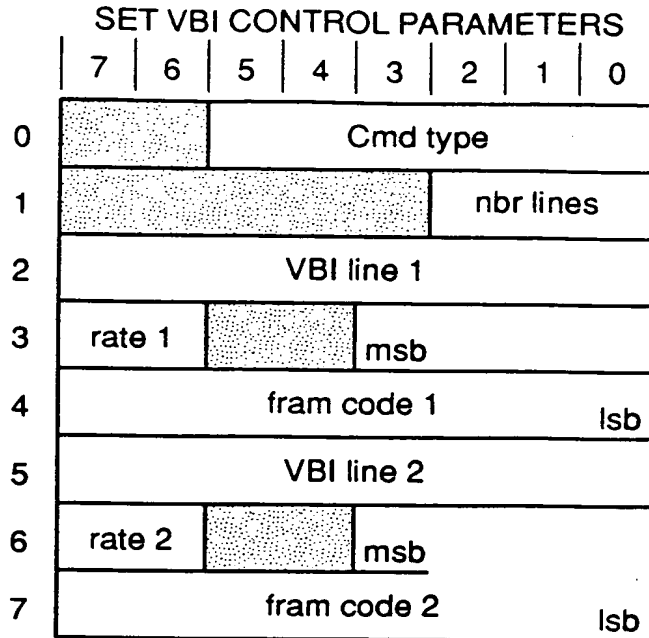
FIG. 53C

0	Cmd type							
	7	6	5	4	3	2	1	0

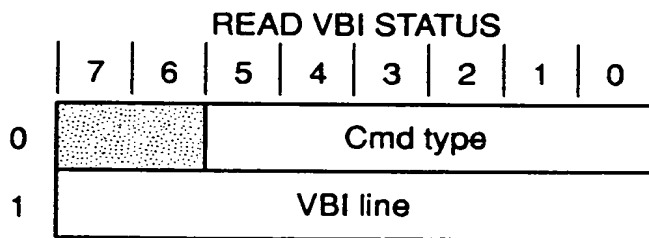
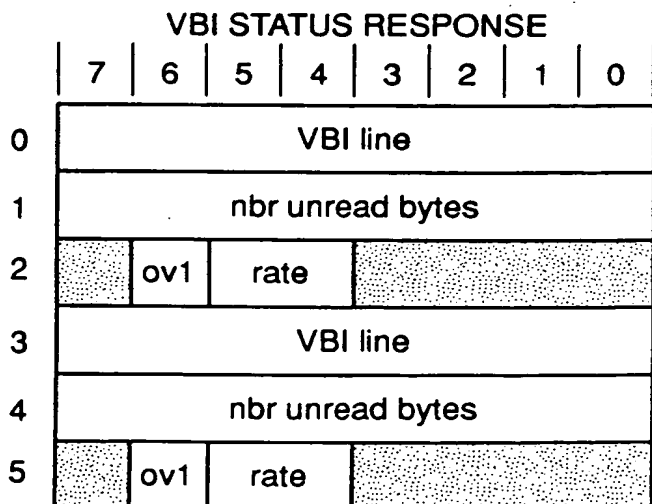
0	Cmd type							
7	6	5	4	3	2	1	0	

FIG. 54

FIG. 55

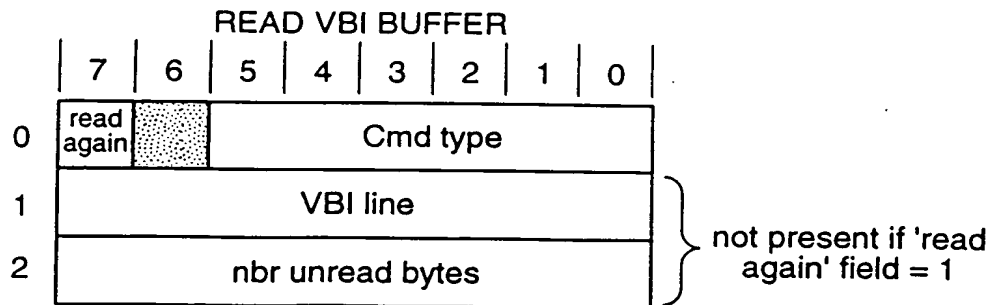
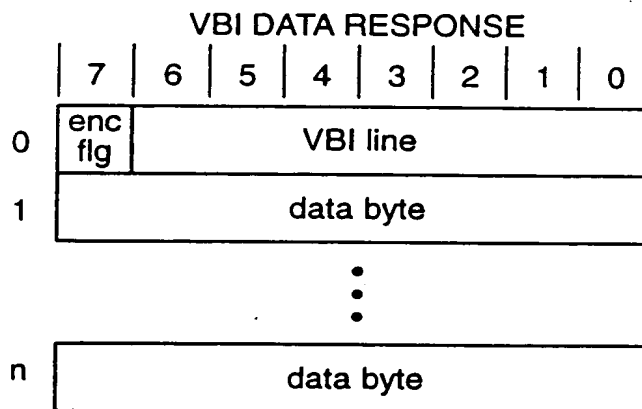


These fields are present only if 'nbr lines' field = 2

FIG._56**FIG._57**

Present only if 2 VBI lines and Read VBI Status command requested status for all lines.

FIG._58

**FIG._59****FIG._60**